EXHIBIT C

UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF NEW JERSEY

MDL No. 16-2738(FLW)(LHG)

IN RE: JOHNSON & JOHNSON TALCUM POWDER PRODUCTS MARKETING, SALES PRACTICES, AND PRODUCTS LIABILITY LITIGATION

The remote video deposition of WILLIAM LONGO, Ph.D., taken via Zoom videoconference on May 2, 2024, commencing at approximately 11:20 a.m., before Lois Anne Robinson, Certified Realtime Reporter.

A P P E A R A N C E S

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Court Reporter

I N D E X

I N D E X - (continued)

VIDEOGRAPHER:
We are now on the record.
My name is Maria Lima. I'm a videographer for Golkow.
Today's date is May 2nd, 2024, and the time is 11:20 a.m. This remote video deposition is being held in the matter of Talcum Powder Litigation.
The deponent is William E. Longo, Ph.D.
All parties to this deposition are appearing remotely and have agreed to the witness being sworn in remotely. Due to the nature of remote reporting, please pause briefly before speaking to ensure all parties are heard completely.
Counsel's appearances will be noted on the stenographic record.
The court reporter will now swear in the witness.

WILLIAM LONGO, Ph.D.,
the witness, after having first been duly sworn to tell the truth, the whole truth, and nothing but the truth, was examined and

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testified as follows:
EXAMINATION
BY MR. EWALD:
Q Good morning, Dr. Longo.
A Good morning.
Q It's been a while.
A It has been a while.
Q Okay. So let's get some of the logistics out of the way first.
Well, first question is where are you today?
A I am in -- I'm at the -- I'm at Materials Analytical Services, LLC, and I'm sitting in the second -- the small conference room.
Q And is there anyone in the room with you?
A Yes.
Q Who?
A Leigh O'Dell.
Q Anybody else?
A No.
Q What --
At least on the screen I see a number

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of different stacks of paper. Can you generally describe for me what you have in front of you so I know what you have?
A Well, I have the supplement expert report, MDL Johnson's Baby Powder, et cetera, et cetera, May 2nd, 2024, which just, on page -- page -- on page 5, an overview, this supplement report was done to correct typographical errors involving the container calculations. And then I point out where those corrections were made and what was made. They're very minor, but there were some typos there on the number of containers. And that's the only thing I changed.
Q Okay.
MS. O'DELL:
And, John, I will put that in the chat so you'll have it.
MR. EWALD:
Yeah. That'll be -- I was worried I was missing it. So, yes, that would be great to put it in the chat. Thank you.
A I also have a report, PLM analysis, chrysotile RIs and structure size for MAS's RG-144 and SG-210 chrysotile standard in the

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analysis of fibrous -- fibrous talc and other information, William E. Longo, Ph.D., CEO, MAS, LLC, September 2nd, 2022.
I'm fairly certain that this has been -- this has been provided in the past. And what we have here is, on table 2, is the RG-144 Calidria spiked Johnson baby powder -- Johnson talcum powder samples where we did PLM analysis on the RG-144 spiked starting at table 2, .1 percent all the way down to .0001 percent. There's a typo there.
Q Sorry. So the record's clear, what's the typo?
A CSM, we also did a standard spike from .1 percent to .0001 percent, which that should be for the ISO. So this was our standardization on the number of structures of the Calidria going all the way down, and then we have some other information there that we've also provided.
I have --
Q Sorry, Doctor. Before we leave that one, I just want to make sure I understand the typo that you referred to on table 2, page 4, of this report. There's an extra zero on M65947?

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A It should be 0.001 percent, like the exact same number down there for the CSM.
Q Okay.
A That's one too many zeros there.
Q Right.
A And it's interesting. I always find that in the deposition when I'm explaining what we have.
This was a -- we sent these in. I was just able to locate them, the request in the -- it's the photographs for the lizard- -- lizardite, which -- in 1.550, and the antigorite in 1.550 showing the difference that you get for chrysotile for that. That's a response to the...
I also, starting over here, I have volume 69, second quarter, 2022, the published -- the published paper for Dr. Shu-Chun Su in the journal called The Microscope, volume 69, hyphen -- I mean 69-2, pages 51 through 69, 2022, entitled "The Dispersion Staining Technique and Its Application to Measuring Refractive Indices of Non-opaque Materials, with Emphasis -- Emphasis on Asbestos Analysis."
And he gave a -- he had some

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corrections in -- I think the following -- I think the third quarter on the -- on the one zero -- on the chrysotile. Yeah. Table 5, conversion for chrysotile and Cargille, 1.550 corrected.

Okay. I have a document, big document here, and this was stuff that was asked for in the -- it's called a supplement expert report, Comparison of RIs in chrysotile structure size, Union Carbide SG-210 chrysotile products from the Coalinga mine in California, Montana talc source for both Gold Bond and Clubman body powder, fibrous talc and reduced size NIST 1866b chrysotile standard, October 9th, 2023.

Moving right along --

Oh, I also have Dr. Su's handout that he would -- when he inspected laboratories for NVLAP, he would hand out a document called "Rapidly and Accurately Determining Refractive Indices of Asbestos Fibers by Using Dispersion Staining Method." And this one is a revision of 2010-07-11.

I also brought along the ISO 22262-1, Method Bulk -- Bulk -- you know, Bulk Material,

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Part 1.

Somewhere in here I have the EPA R-93. Here it is. I brought that along in case we need it for any reason.

I have a giant notebook that -- and that's my reliance materials as a first section. Then we have my testimony list.

You have this, I think; right?

Q Well, we'll get to it. I'm not sure I have your most up-to-date stuff. But, yes, we have a version.

A I have the fourth supplement report of William Longo, April 29th, 2024. And this one was where -- yeah. I had to make a few corrections, I think, in that.

My CV.

Analysis of Tamara Newsome's Johnson's Baby Powder container, 11-17-23. So that's the report.

The third supplement MDL report, 11-17-23.

Analysis of J&J's historical Imerys railroad -- railroad samples that are in the original February 1st, 2019, document.

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Asbestos -- next section is Asbestos in talc fiber exposure tables, 1960 to 2000, Johnson Baby Powder and Shower to Shower.

Then I have supplement expert report, comparison of RIs in chrysotile -- chrysotile structure size. Well, that's -- that's the report part of that notebook.

The Valadez 228 analysis, that one sample. I'll call it an off-the-shelf sample that Joe Satterley sent me.

The report for Daniel Doyle, which, again, was a analysis that was sent to me, I believe, by Simon Greenstone. These were samples that were analyzed for Chinese that were not in the original MDL report.

What's next?

Analysis of Carolyn Weirick, 1.5-ounce container. That came from Simon Greenstone.

Then I have analysis of Johnson & Johnson talc products for amphibole analysis, expert report. Oh, this is an oldie, July 2018. I'm seeing who this came from. Oh, Simon -- that's another Simon Greenstone.

The --

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Q Sorry. 2018 was a Simon Greenstone?

A Yes.

Q Okay. But it's amphibole?

A I didn't look at the results.

Q All right.

A Let me get past the chain of custody. It was only for amphiboles.

Q Okay. And, just for the record, can you give your internal control number, whatever you call it, for that one?

A Oh. Our MAS lab tracking number?

Q Precisely.

A It's M68483.

Q Thanks.

A Then we have the Marie Cully supplement report, M71046. And this was done on May 14th, 2020, revision 1.

I'll get the results and see what we did. Oh. This went back -- this was -- went back and did for -- for chrysotile.

Then we have Supplement Analysis Report M- -- where is it? M71095. This is Janet Tutley's JB container split, September 23rd, 2022, revision 2. And this was for chrysotile.

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Where did we find it here? Analysis of talc fibers as well.

Then we have Chinese talc analysis report, revision 9-16-2022. Oh. These are -- looks like it's M71109 to M71111. I believe these are the -- the Chinese retains that we received from --

Who sent those to us? It might have been either Seagrave or Sanchez, RJ Lee.

Then we have a supplement report 1, MAS project M71166, off-the-shelf 2020 Johnson Baby Powder talcum powder analysis. And these are the ones that I purchased when they -- when the product was still on the market. And they came --

Well, you can look at it. But I gave you, you know, the M number.

Then we have the Shawn Johnson Johnson Baby Powder analysis. That was the 10 containers that were purchased by Shawn Johnson's mother and sent directly to us.

Then we have two Johnson Baby Powder and one Gold Bond off-the-shelf containers from Lucky's. And those would have came from Joe

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Satterley, case of McLean, and it's M number M71216.

The next one is Johnson Baby Powder analysis, compiled notebook, 2-9-2021, MAS project M71241. And these were all 2018 containers. And that means -- I think these were ones that I purchased. Yeah. These -- these -- these were purchased by me off -- off the Internet from Ralph's, which is out in California, I assume.

I also have in here the June 6th, 2019, rebuttal expert report for the Prop 65. I don't recall saying I was relying on this, but I guess if you want to ask questions, that's fine.

Also, I have supplement report, two off-the-shelf 2020 Johnson Baby Powder -- well, Johnson Baby Powder analysis, MAS projects M71166 and M71180. These were containers purchased by me from CVS in Suwanee, Georgia, and from Walgreens from Johns Creek. And then I got a sample in -- a full container from Target in Blue Springs, Missouri.

The last one would be Linda Zimmerman, supplemental analysis report, MAS project M70484.

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And that's what's in that book.

Now, I just want to put this on the record. It is my understanding that Judge Wolfson excluded our PLM opinions about amphibole asbestos during the Daubert hearing. While I disagree that this -- this should have happened, you know, what I would say about the PLM analysis is that that hearing was four years ago, and we've certainly advanced the science, advancement in science on the PLM. I think some of the issues she had I believe we've cured, you know, but I'm always hesitant to violate -- violate a -- a -- a -- a federal judge's order. So, you know, I just have to go from there.

Q Okay. Thank you for that. And --

All right. So first question after all of that is the lizardite and antigorite standards, you kind of trailed off, at least from what I heard. Was that in response to recent questions from my partner, Kevin Hynes?

A Well, I told Kevin Hynes I had them. So, interesting enough, the -- the request for them showed up in the deposition notice for here, so I provided them.

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Q All right.

A That was a long answer to your question that should have been yes.

Q All right. And, so, you said you had them. How long has --

Well, let's first mark -- we'll go ahead and mark as Exhibit 1 the --

It's labeled the lizardite standard, and Exhibit 2 will be the antigorite standard.

(DEPOSITION EXHIBITS 1 AND 2 WERE MARKED FOR IDENTIFICATION.)

MR. EWALD:

Q Doctor, the -- first, let's take lizardite, Exhibit 1. How long has MAS --

Let me rephrase that.

When was the lizardite standard created by MAS?

A Well, it wasn't so much created. We had lizardite and antigorite, as well as some others, for a long time. In fact, we never really ran into the issue. But soon as we started identifying -- when we started identifying chrysotile, these, of course, are two polymorphs of chrysotile, and -- in the cosmetic

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talc. I wanted to make sure that we weren't misidentifying antigorite and/or lizardite and see what the PLM ranges were for our standards we had in-house. Because these standards have been around for some time. We never really had to do anything with them. But it was mostly for the TEM folks to take a look at, if we needed to.

Now, when we did this would have been back in 2020 or 2021.

Q And when you say --

Hold on. This is always interesting when you try to put something on screen. Let's see how this goes.

Do you see the lizardite standard on your screen, Doctor?

A I do.

Q All right. When you say you did this in 2021, are you testifying that the document that was marked as Exhibit 1 was created in 2020, 2021 time frame?

A Yes. Somewhere where we started finding the -- the size of the -- size of the chrysotile structures, I wanted to make sure we weren't misidentifying the polymorphs. It's

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either 2020 or 2021. And it was clearly that it was different, so -- and because nobody suggested, none of the defense experts suggested that we were misidentifying either antigorite or -- or lizardite, all -- all the -- all the opinions that we were misidentifying fibrous talc as chrysotile.

So we spent all our research time looking at fibrous talc, looking at how the birefringence is so different from chrysotile, we just sort of stuck these away.

Now, if the defense experts' opinions are now changing, that they want to abandon the chrysotile, their opinions after two-and-a-half years of saying we're misidentifying fibrous talc for chrysotile, and now they're saying, well, it's antigorite or lizardite, you know, that'll be up to them to explain why they're changing their minds.

So we just -- I just put them away and kind of forgot about them. It wasn't until your colleague asked about them and I go, "oh, yeah, we've got those." But we've never really had to do anything with them, because it was all about

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fibrous talc misidentification.

Q To be so clear, because I wasn't sure from your answer, what we've marked as Exhibit 1 that is -- hold on -- 5 images labeled "lizardite standard," that was -- those images were created, photographed in 2020, 2021 time frame?

A Yes, sir.

Q Okay.

A In 1.550. And these would have been with the old microscopes.

Q And the -- you said you had the lizardite, antigorite standards around for a while. What is the -- what is the source of the lizardite, antigorite standards?

A You know, it's been so long, I would have to look it up and see if we actually -- what the source was. I mean, I literally haven't looked at these in two, three years.

If you'll notice, you know, a lot of our reports, besides identifying chrysotile by PLM, is also showing what the birefringence and the difference in the fibrous talc. But we just don't really run across these materials.

Number 1, antigorite, in the

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Environmental Protection Agency book that has been read back to me many times, in the section called "Asbestiform, Nonasbestiform," in the AHERA, and it says antigorite is the nonasbestiform.

Well, we all know it can be fibrous from time to time, but we haven't seen this in the PLM analysis. So that's the reason it's really never come to light, meaning it wasn't really important, because this is not what we had been accused of misidentifying.

Q Well, in your --

Well, first of all, the -- in the slide at the bottom, it says "antigorite" and, in parentheses, "Ontario." Is it your understanding that the standard for antigorite that MAS used originated from Ontario?

A Yes. And that would --

Well, so this -- I'm sure, you know, the Ontario chrysotile up there is all serpentine, originated from serpentine, and this would be a serpentine. So that's my understanding. It came from Ontario -- from the Ontario mines up there.

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Q And, so, we were looking at page 1 of Exhibit 1 for lizardite. At the top we have RA values of 1.567 to 1.585. That's what's written; correct?
A Correct.
Q And is that your understanding of the range of RI values for antigorite -- for lizardite when looking at it in parallel position?
A It's in that range of them. And, you know, here we have the 1.67. You've got more of the orangish-red. That's --
And then on the upper side here, we've got these whites in here. So that gives you the 1.585. If you were to average that, that's going to be 6, 7, 10 -- yeah. That's gonna be in the high 1.5 --
Well, instead of me just guessing, it's probably going to give you an average refractive indices --
1.567, 5 -- is 12 -- 7, 1.527 versus 1.585. I mean 80. So you're gonna be in the 1.5 -- let's see -- 9, 3, 8, 4, 7, 5, 6, 6.
1.8576. So that's outside the range we've ever

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seen for chrysotile.
But, more importantly, if you go to the perpendicular, no matter if you're -- you know, you're always getting the blues, and we're not here. We've got 1.563 to 1.582 -- 1.563, 82 --
Two and 3, that's 5...and 1.645.
No. It's got to be harder than that.
Oh. 1.615.
Let me just do the math on the calculator before I screw up.
Q Feel free.
A I didn't bring it.
Anyway, you're not getting any of the what I would call the blues that you typically see in 1.550, so you have -- you have -- your refractive indices are way too high for it to be --
You're getting close now to what you might see for talc. 63 to 82, you know, you take -- you take the 1.585, it doesn't -- it doesn't work. I mean, those colors, it doesn't work. You know, I haven't done the math on it, but the refractive indices are way too high to be chrysotile. Way too high.

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Q It's your testimony that when you were -- when MAS was analyzing talc samples by PLM for the presence of chrysotile, that you referred to these lizardite and antigorite samples?
A Yes. We took a look at this and go, well, we're not seeing anything close to that. Now, you may get --
Because you've got, basically, very close refractive indices on both the perpendicular and parallel, but you've got the wrong wavelengths. I mean, if you were to go into the chart that likes to be shoved in my face all the time for the ISO chart, when it says 1.550 for chrysotile and take a look at the central stop data, and the -- you're gonna be -- you're gonna be outside of the range.
Q Okay. And --
A For the 1.56, you know, it's -- you're not getting the same dispersion colors.
Now, we can argue over the gold and yellow, et cetera, but you're not gonna find any Calidria that looks like that. And, again, this was just put away because it was never suggested

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that MAS was misidentifying antigorite or lizardite as chrysotile. It was all fibrous talc. Fibrous talc. Or for the -- for the experts who say there is no fibrous talc, it was all talc plates on edge.
Q In any of your reports or analysis of talc by PLM for chrysotile, did you reference that you ruled out antigorite and lizardite as a possibility?
A No. Because right off the bat we were being accused of misidentifying it fibrous talc. That's in -- just about in every report. Because this is why they say --
And then I was rebutting it as why they're wrong.
Nobody has ever said that we're misidentifying chrysotile for lizardite and antigorite. And here is an interesting one, because this lizardite actually has a few pieces of --
Since it's a polymorph, you can get either or, or you can get a little bit of both. We show -- can show the little pieces on here where we have reddish-magenta to blue, which

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pretty much would put it into the -- as chrysotile. But the majority of it is not, you know, because the majority of the rest of this is the lizardite.
Q So this is, looking now at Exhibit 2, you're describing slide 1, and the -- it's -- the title of the slide is "antigorite standard." Correct?
A Antigorite? I thought this was the lizardite one?
Q You see at the top "antigorite standard"? I'm not -- I'm just looking at what you are telling me, Doctor.
MS. O'DELL:
You moved from Exhibit 1 to Exhibit 2.
MR. EWALD:
I did, yes. And I identified this as Exhibit 2.
MS. O'DELL:
Okay. I just wanted to make sure we were on the same --
MR. EWALD:
Yeah.
A If you go down to the bottom --

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If you scroll up just a tad --
There you go. Bundle of lizardite.
MR. EWALD:
Q Okay. So --
And the record will reflect, one way or another, I got these about, you know, a couple minutes before the deposition, so I'm seeing this for the first time. But, Doctor, all of these in this -- we marked as Exhibit 2 that's labeled "antigorite standard," these are all, in fact, lizardite?
A Yeah. It's --
You know, if you look at our PLM analysis, we give you, you know, dispersion staining, both, you know, perpendicular and parallel. Then we do cross-polars. Excuse me. Then we do elongation, then cross-polars and then no pol- -- then no polars. That's pretty standard of what we do for anything we're doing with PLM.
Q Right. But what we're looking at here, the images, even though the title says "antigorite standard," what we're looking at are images of lizardite. Fair?

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A It's lizardite. If you look at --
MS. O'DELL:
If I could --
THE WITNESS:
I'm sorry.
MS. O'DELL:
I think this confusion, the files were -- were -- the names were transposed. So the file that says lizardite -- and Dr. Longo can confirm this -- actually has antigorite, and the file named antigorite actually has lizardite. So just so --
THE WITNESS:
We have the appropriate name on the photographs.
MS. O'DELL:
Yes. The appropriate name's on the photograph.
THE WITNESS:
My assistant, when I said please scan these, got a little confused.
MS. O'DELL:
Yeah. So we correct that --
MR. EWALD:

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That's fine. I'm just trying to make sure the record's clear. I appreciate that. So -- all right.
MS. O'DELL:
So, John, do you mind, for clarity, (garbled Zoom) lizardite in Exhibit 2 is antigorite, is what I heard earlier, and so the record will reflect that the appropriate images will go to that exhibit number. Sorry for the confusion.
MR. EWALD:
That's okay. You did break up a little bit there, but I think what you're saying is however they're labeled or not, Exhibit 1 is, in fact, antigorite standard, and Exhibit 2 is, in fact, lizardite standard. Correct?
MS. O'DELL:
Either way. Just so it's clear. I mean, you named the first one Exhibit 1 was lizardite, and Exhibit 2 was antigorite. We just need clarity that those are actually what's being, you know (garbled Zoom) --
MR. EWALD:
I know. And so what I'm saying is --

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it is confusing. But for Exhibit 1, I marked what was labeled lizardite standard but we've now determined is, in fact, antigorite standard. And, so, Exhibit 1 will be the antigorite standard, and Exhibit 2 will be the lizardite standard. Okay?

MS. O'DELL:

That's great.

MR. EWALD:

Great.

Q All right, Doctor. The two Su articles that you mentioned that you had in front of you, are those articles that you previously referred to in litigation?

A Yes. One -- one is -- one is an actually peer-reviewed publication, and that's the 2022 one from -- in Microscope. And then the other one is a handout he would typically give out to labs that -- that just goes back to -- all the way to, you know, 19- -- 1918? Not 1918. 1980s or so or '90s. And it is just a handout. Essentially, some of the same information he has in his publication, same charts, same look-up tables, et cetera.

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So, yes. So these are what I've been relying on a while about Dr. Su.

Q Okay. And, so, we'll mark as Exhibit 3 the Su 2022 Microscope "Dispersion Staining Technique and Its Application to Measuring Refractive Indices of Non-Opaque Materials, With Emphasis on Asbestos Analysis."

(DEPOSITION EXHIBIT NUMBER 3 WAS MARKED FOR IDENTIFICATION.)

MR. EWALD:

Q Doctor, is the highlighting that we see on the version that I received yours?

A It is.

Q And, then, on Exhibit -- we'll mark Exhibit 4 the -- also by Dr. Su, the "Rapidly and Accurately Determining Refractive Indices of Asbestos Fibers By Using Dispersion Staining Method."

(DEPOSITION EXHIBIT NUMBER 4 WAS MARKED FOR IDENTIFICATION.)

MR. EWALD:

Q Doctor, on this one, is this a copy that you had received at MAS?

A Well, I think I went and looked -- and

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looked them up. But, yeah, we -- we've had a number of these, but I didn't know if I had the -- this was like almost -- yeah, the 2010 one. But they're all basically the same. So I just put this one in as an example if we have to discuss the -- what I would call is -- is determining asbestos refractive indices by dispersion staining, stages 4A and 4B, and compare those to the tables that we produced -- not produced but he had a, you know, QR code on his paper where you could download all the -- the determining asbestos refractive indices for dispersion staining either in Cargille E or another type. And if you compare those two charts or those two look-up tables, they are literally identical.

Q And, so, then, in your -- I guess the question is: In your view, what does what we marked as Exhibit 4 add to the opinions you're offering with respect to PLM and chrysotile?

A Well, first off, if we go to the -- if we go --

Is Exhibit 4 the actual peer-reviewed paper?

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Q Exhibit 4 is the rapid paper. Exhibit 3 is the --

A Okay. Exhibit 3, we have been --

To verify that our refractive indices for the chrysotile was in the range, what was found for chrysotile, and not just have everybody working off the 1866b National Institutes of Standard Technology standard for chrysotile that came from Black Lake area up in Canada --

And it was always pointed to that one of the reasons we were misidentifying chrysotile is that we didn't have -- we weren't getting the same refractive indices that are for the NIST 1866b standard. And, so, when we start looking at Dr. Su's Rapidly and Accurately Determining Refractive Indices of Asbestos Fibers from -- actually gave out, we could see that the ranges that we're finding were actually in his -- in his charts.

But then it was stated that we were misusing his -- that wasn't what it's for. So now he publishes a paper, and on page 51 he says, that highlighting there, "this paper presents a practical procedure for the measurement. To

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facilitate the analysis, two comprehensive suites of precalculated look-up tables for the conversion of the observed matching wavelength to RI were constructed for the two major types of RI liquids: Cargille" -- which we use, and then the DRIMMC.

Well, it doesn't say anything in there that these tables are only for cal- -- for mathematical calculations or anything. And the Exhibit 3 versus the Exhibit 4, they're identical.

Also, I think very important --

Let's see where that is. And, hopefully, I can find it. Oh, here we go.

On page 56 of the document, "select a proper RI liquid to mount the sample." People have been asked repeatedly why did I change from 1.550 to 1.560? Well, if you read what he says here for my highlight, he says "for high-accuracy measurements such as a regulatory, legal, and forensic analysis, et cetera, the rule of thumb is to choose RI liquids as close as possible to the refractive indices that will be measured. For example" --

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Now, I think this is the most important statement in here.

-- "there are chrysotile minerals who [sic] RIs are significantly higher than those of the standard chrysotile from the NIST SR [sic] 1866 set."

And if you go down further, "in that case, 1.55 -- 1.555 or 1.560, instead of the 1.550, RI liquid should be used to determine a gamma."

Right here, one of the premier experts, in his published peer-reviewed paper, is stating that there will be higher -- significantly higher refractive indices than found for the standard chrysotile NIST.

In my opinion, this statement from a peer-reviewed publication validates everything I've been saying for the last two-and-a-half years.

And because our average range of refractive indices, RIs, are from about approximately 1.560 to 1.569, sometimes 1.70, if you average all our RIs out, we have a refractive indice [sic] of 1.560.

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Now, he also produces a table of 1.565. Oh, he doesn't have -- he has a 1.56, you know, RI liquid. So we went to 1.560 based on this statement right here from Dr. Su. That's the main reason I rely on this, because here we have -- we have a very -- you know, what has been stated as a very knowledgeable scientist talked about the higher refractive indices that we have been seeing in gamma for the chrysotile finding in the cosmetic talcs, as well as the chrysotile Union Carbide product, SG-210. They're almost in identical range. That's -- this is what I primarily rely on for this particular peer-reviewed publication.

Q The -- you just gave a range of what refractive indices MAS -- the finding in its PLM analysis of chrysotile J&J products in the gamma position as 1.56 to 1.569? Is that what you stated?

A That's the typical range. Yes. One time -- sometimes you'll see a 1.570 or 1.571. Sometimes we'll see a 1.5- -- 1.559, 1.558. But typically where we end up is that 1.560 up to 1.569. And that's why we chose the 1.560.

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It also was suggested -- well, it was also stated by Mickey Gunther that we needed to use a higher refractive indice [sic] fluid to validate that we're finding chrysotile, as well as Adam Seagrave. And can't remember if Sanchez said it or not, Dr. Sanchez.

So to me, this validates what we were doing, a published paper stating that we had the appropriate -- that the higher refractive indices --

And, more importantly, it says here "for higher-accuracy measurements." So now in the 1.560, we're seeing more of the 1- -- of in the low range of the chrysotile for the birefringence, which it's supposed to be. So it's more accurate using this.

So we're probably gonna try 1.565 at some point, but we have to generate a table for it. So I don't know when we'll do that.

Q When you say "generate a table," how would you go about generating a table for 1.565?

A Same way Dr. Su did. Just calculate it. You take --

Q How do you calculate it?

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A So you have 1.60 and you have a 1.550. I think we have a 1.55 in here somewhere. But you can just cal- -- you can just calculate it. Alls you have to do is put all the parameters in, you know, wavelength in. There's a simple formula for it.

Now, you're gonna ask what that formula is. I'm gonna look it up so I don't make a mistake.

Q Okay. So, sitting here today, you don't know what the formula is to create the table for 1.565; correct?

A Well, I don't know it verbatim, and -- I can give you certain parts of it, you know. You've got -- you've got to -- obviously, you've got to have the wavelengths. You're gonna have to have --

What is the other two variables? I can't think. I'll know it pretty well when I put a 1.565 table together, because that's probably the better refractive fluid since the average of what we're seeing is 1.565.

Q And I take it MAS would have to create a table for 1.565 because you're not aware of

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anywhere in the published literature that such a table exists?

A Well, I was just gonna go with, you know, what Dr. Su did, just do the calculations.

Q But my question is --

A I'm --

Q Sorry. Go ahead.

A I have not seen a table for 1.565.

Q And we're looking at the part that you highlighted here. It's on page 56, as you mentioned, of what we marked as Exhibit 3. The remains that you said you get the most often for the RI in the gamma direction is 1.560 to 5 -- 1.569, and everything from 1.561 to 1.569 is above 1.560; correct?

A Yes.

And, as I was saying, the average is 1. -- the average comes out, typically --

I think I went through, you know, what we saw for the SG-210, the average data we saw for Gold Bond, and what we saw for the -- well, Montana talc, primarily.

Q All right. The -- I just want to be -- before we leave what we marked as Exhibit 4, you

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mentioned that this Exhibit 4 has the same tables that come up on the QR code; correct?

A Correct.

Q Is there anything else with respect to this article -- I'm sorry.

Well, withdrawn.

Is there anything else with respect to what we marked as Exhibit 4 that you're relying on for your opinions with respect to PLM chrysotile analysis?

A Oh. 57.

Q And now we're back to Exhibit 3; right? The 2022 article?

A Yes.

Q Okay.

A Constantly I have been shown one of Dr. Su's handouts where he said stay away from yellow. Don't do yellow. Stay away from yellow. Bad, yellow.

And here we have, on page 57, for an experienced analyst, one can assign the color to be 4.60 [sic] nanometer if closer to golden yellow or 480 nm meters if closer to orange. And that's something I've been arguing about that.

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An experienced analyst can do this; that yellows are not bad.

And, again, that goes -- that is different than what he says in his handouts. So it's a little confusing.

But I'm assuming that a peer-reviewed publication is more authoritative than a handout that -- given to PLM labs.

Let me see if there's anything else in here that I find interesting. I think those were the main points.

Q If we go to page 64 of Exhibit 3, there's a table 6, and talks about selection of DRIMMC immersion liquids for asbestos analysis. You have some highlighting there, and you have something that's circled with what appears to be 1.545. What are you indicating there?

MS. O'DELL:

Page 54, John? Is that right?

MR. EWALD:

Exhibit 3.

MS. O'DELL:

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MR. EWALD:

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Page 64. It's Exhibit 3.
A My copy doesn't have that, but I sent that electronically. I'm not sure why I put that 1.545 on there. I'm looking at his charts and 1.550.
MR. EWALD:
Q Okay. And, so, when on this chart you've highlighted, under the high accuracy required, regulatory, litigation, forensic, et cetera, for chrysotile in the gamma direction, it lists 1.550, 1.560; correct?
A For routine samples. Then we have 1.550, 1.560, and then it has a little asterisk. And if you go down to the bottom, "there are chrysotile minerals whose refractive indices are higher than those of the NIST SRM 1866 chrysotile." So I don't see anything inconsistent there.
Q All right. Let's mark as Exhibit 5 the updated Notice of Oral and Videotaped Deposition of William Longo, Ph.D., Duces Tecum, Notice to Preserve and Notice of Inspection. That will be Exhibit 5.
(DEPOSITION EXHIBIT NUMBER 5

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WAS MARKED FOR IDENTIFICATION.)
MR. EWALD:
Q And then I'll mark as Exhibit 6 the Plaintiffs' Steering Committee's Responses and Objections to the Updated Notice of Oral and Videotaped Deposition of William Longo, Ph.D. Duces Tecum, Notice to Preserve and Notice of Inspection.
(DEPOSITION EXHIBIT NUMBER 6
WAS MARKED FOR IDENTIFICATION.)
MR. EWALD:
Q Let me go ahead and share my screen. And, Doctor, what I put up here is the Exhibit 6, plaintiff's responses to the updated notice. Did you have an opportunity to review the updated notice of oral and videotaped deposition of yourself, notice to preserve and notice of inspection?
A Yes.
Q When did you review it?
A Yesterday.
Q And --
MS. O'DELL:
Just for the record, as you know, there

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was -- there was an initial notice sent. There was some confusion on whether there was actually a second notice. So it's the same one yesterday. So --
MR. EWALD:
Q Okay. And, Doctor, if we go to the responses, you see, for example, on number 20, so we're at page 11, all materials related to your or your laboratory's testing of Johnson's Baby Powder or Shower to Shower, including but not limited to, and then it has a number of different specific subparts, the response states, after some objections, "without waiving said objections, any materials in response to this request have already been produced during the talcum powder litigation and, therefore, are already in the possession of defendants. Otherwise, Dr. Longo is not aware of any responsive documents."
Did I read those sentences correctly?
A You did.
Q And, so, where the responses and objections state "otherwise, Dr. Longo is not aware of any responsive documents other than what

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has already been produced in the talcum powder litigation," is that something that you agree with?
MS. O'DELL:
Just let me interject, just a brief objection. Number 1, I would add to this that we've provided a Dropbox with a number of materials in it, all of the materials that were listed on Dr. Longo's materials considered list, and we continue to add to that.
So subject to that objection, with what the objection is, you're welcome to ask Dr. Longo specific questions. But the objections are the lawyer's objections, not Dr. Longo's objections. And, so --
MR. EWALD:
Right. And I appreciate that. But I'm not talking about objections. I'm talking about the statement in the document that Dr. Longo is not aware of any responsive documents other than what has been produced in talcum powder litigation.
Q And so my question to you, Dr. Longo, is whether that is a true statement.

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A That is a true statement.
Q Okay.
A Now, we have a chart of all our J&J testing that has been provided to defendants. If I were to stack up the notebooks that -- you know, just -- just taking a look at the -- all the historic -- the J&J historical samples, where we have 19- -- you know, 1960, 1970, 1980, 1990, 2000s up to 2002 or 2003, and, before that, it was maybe 50-some samples from eBay, et cetera. And then after, you know, Johnson & Johnson, the only additional samples we did -- because, you know, Johnson & Johnson was in bankrupt [sic] for two years -- was the -- you know, the Alphadet --
MS. O'DELL:
Valadez?
A -- Valadez -- excuse me -- was a sample, and a couple more for the -- for the MDL, for some of the containers for the -- you know, for this project. There's nothing else. We provided all the -- you know, all the selected area electron diffraction patterns, all the ADXA. There's nothing else.
MR. EWALD:

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Q All right. Looking at request 31 in what we marked as Exhibit 6, it asks for all standard operating procedures (SOPs) maintained by your laboratory for testing bulk materials for asbestos by PLM, TEM, and SEM.
And, Doctor, my question to you is: Does MAS maintain any standard operating procedures for the testing of talc samples by PLM for the presence of chrysotile?
A No. We haven't finished the standard operating procedures because we keep doing research and changing slight -- slight conditions, so -- until we finally have.
But what I may -- but what we do provide, in every analysis we do have chrysotile has materials and methods section that anybody can follow, and it doesn't really have --
If we had written SOPs for every time we made a change, it wouldn't really change any -- it -- you know, it really wouldn't give any additional information. That's why I think we're one of the few laboratories, when they do an analysis, they actually put in every step they do. And for any changes, then we, you know, show

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it right there.
So we consider SOPs confidential and company records. We don't turn over SOPs, and not too many experts do.
Q Sorry, Doctor. I didn't follow -- I got the last part. But the part before that, you mentioned you're one of the few labs, something about turnover? I wasn't sure what you were talking about. Sorry.
A I think we're one of the few labs that put a very extensive materials and methods section in just to go through each step of what we do. And using those materials/methods section, anybody could duplicate the analysis.
Q And when you say materials and methods section, you're referring to the materials and methods section in your expert report; right?
MS. O'DELL:
Reports.
A In every report we have. From receiving the sample to weighing it out, to -- you know, through the -- out of the -- you know, through the muffle furnace to get rid of the organics, to weighing it, then going and doing

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the heavy liquid spin time on the centrifuge, the name -- name and -- on what products we're using so they can buy the same products, the same centrifuge, if they'd like, et cetera, et cetera.
So it's not inhibiting, in my opinion, any other experts from trying to do this work. And it must -- it must be okay, because Alan Seagrave has duplicated this method for using right out -- protocols right out of our paper, right out of our reports.
Now, he didn't find chrysotile, and -- but he never complained that there wasn't enough information for him to do this work, and that's a -- you know, that's a defense expert that actually did the CSM method.
Q And I apologize. I'm not familiar with that. How -- how recently was that?
A I have a report of his floating around, a couple of them. I don't know if I can put my hands on them or not. But if my client asks me, I will certainly look for it.
Q And in looking at those reports where he didn't find chrysotile, what is your response to his conclusions?

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A My response is, one, he didn't have the right optical microscope. Two, he didn't bother running any standards to show him what this material looks like and how small it is, the chrysotile. I think that is cata- -- that you have to -- you have to look at something that is similar to what you're trying to find because it's so different than your usual asbestos-added products, chrysotile products.
Q And am I correct that your hypothesis on why it's smaller is because of the milling?
MS. O'DELL:
Object to the form.
A That may be it. Certainly the Calidria SG-210 has to be from milling. But that certainly could be it.
MR. EWALD:
Q Well, are you also offering the possibility --
Withdrawn.
Do you also hold up in the possibility that the types of chrys- -- that the chrysotile you are identifying in cosmetic talc is the result of specific geographic -- geologic process

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in those areas?
A That's out of my area. But if you look at things like, for example --
You know, I'll just give an example of this. If you look at the Vermont mines, the Vermont mines --
And that's probably what we'll do next at some point is go through the Vermont mines, because, you know, that's where the genesis of all this started about analyzing chrysotile. There had to be a pretty good reason that Johnson & Johnson hired a well-known, prestigious university or institute, the Colorado School of Mines Institute, to spend a whole year developing the method on and using Vermont talc to determine -- they called it the double density method.
Now, they -- once they -- once they had the full method, it was signed off by the director of the Colorado School of Mines, it was signed off by their chief scientist, they had in there a statement that I have made many times, which is finding asbestos in talc samples is like looking for needles in a haystack. And,

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therefore, you want to use a double -- you want to use a method to concentrate the needles to make them visible so you can find it.
Also, we, of course, have the document showing that, one -- I think it was from the Argonaut mine, where Johnson & Johnson was trying to develop a flotation or surfactant used in their -- in their -- in their beneficiation process where they float it up so that they could remove chrysotile. And they did -- they actually ran standards of it where they would put some chrysotile in, have a standard, et cetera.
And I think it was the Hammondsville mine where they actually were developing -- they said they were developing a -- a -- almost like put it on sup- -- you know, I'll use a Trump statement, you know -- warp speed to develop a beneficiation method to remove the tremolite.
Now, if there was no asbestos tremolite in any of these mines in Vermont, why is Johnson & Johnson spending so much money to figure out how to get rid of it?
But geologic- -- the geological development of asbestos in -- in these mines is

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not my area. My area is -- I don't really listen to that, because I'd rather just do the testing. And certainly when you've got a lot of documentation that says it's -- they're trying to get rid of the -- the disagreeable minerals or something like that.
You know, it's 12:30. I think we've been going for like an hour and 15 --
MS. O'DELL:
Ten minutes?
THE WITNESS:
Yeah. And I don't know. You guys are all East Coast time; right?
MR. EWALD:
Q I am.
A You know, at some point, not this point, but, you know, I want to take 20 minutes or 30 minutes for lunch or something.
Q I'm happy to take a break. I'm happy to take as long -- whenever you want to take lunch. It's up to everybody else, including the court reporter.
A I don't want to dictate when we're gonna take lunch. I usually like to get the

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feedback from the court reporter. That's the most important person.
MS. O'DELL:
So let's go off the record.
THE WITNESS:
Okay.
VIDEOGRAPHER:
Going off record. The time is 12:31.
(OFF THE RECORD.)
VIDEOGRAPHER:
Back on record. The time is 12:41 p.m.
MR. EWALD:
Q Hey, Dr. Longo, have you issued any invoices for your MDL work --
Yeah. I'll start there.
Have you issued any invoices to plaintiffs for your MDL work?
A I know I issued a retainer, and I think there were some others. And been some refunds, sort of.
Q All right. I'll have some more questions about that.
MR. EWALD:
But first, I could have missed it,

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Michelle. Have those been produced? Leigh. Sorry. Not Michelle.
MS. O'DELL:
I'm always happy to be mistaken for Michelle. That's a compliment.
Yes, there were invoices produced in the Dropbox.
MR. EWALD:
Q Well, then, we will get back to that one.
On the CV, let me show you, Doctor, what -- the last version I have. And again, maybe I missed something that was uploaded. Is there a way for me to determine whether this is your current CV?
A You know, I have not updated it in a while, so 03- -- 03-12-2020 is the -- the latest.
Q Okay.
A Has been the updated CV since almost about -- going on over four years. I'd better write something to put in it.
Q All right. So we'll mark as Exhibit 7 CV with the date, as Dr. Longo indicated, at the bottom, updated March 12th, 2020.

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(DEPOSITION EXHIBIT NUMBER 7
WAS MARKED FOR IDENTIFICATION.)
MR. EWALD:
Q Dr. Longo, do you have any papers, any papers in process related to talc?
A I've not had any publications -- any papers either accepted or rejected by any journals.
Q Okay. Are you currently working on any papers related to talc?
A And I apologize. I don't talk about that. I went through the experience once of --
I'm not accusing you guys. I'm just extra cautious now.
A law firm hired some experts that knew the editor to try to --
Because the paper got accepted, but it had not been published yet.
-- to reject the paper. Fortunately, the editor didn't do that. So now I just --
You obviously have a right to know if I've had one accepted or rejected, and that hasn't happened, anything to do with talc.
Q All right. The -- let me mark as

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Exhibit 8 what I have. It's a Johnson & Johnson reliance and review documents, Appendix A.
(DEPOSITION EXHIBIT NUMBER 8
WAS MARKED FOR IDENTIFICATION.)
MR. EWALD:
Q And what I show on that one is a date at the bottom of April 23rd, 2021. Is that the current one?
A It is.
Q All right. Then let's mark as exhibit for --
Well, let me ask you, Doctor, I --
Hold one second. I'm downloading something that was put into the chat by Leigh.
All right. Let's mark as Exhibit 9 the forth supplemental MDL report by MAS dated April 29th, 2024.
(DEPOSITION EXHIBIT NUMBER 9
WAS MARKED FOR IDENTIFICATION.)
MR. EWALD:
Q And, then, Exhibit 10 will be the supplement expert report that we received today dated May 2nd, 2024, MDL Johnson's Baby Powder Application Exposure Container Calculations for

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Six Ovarian Cancer Victim Bellwether Cases.
(DEPOSITION EXHIBIT NUMBER 10 WAS MARKED FOR IDENTIFICATION.)
MR. EWALD:
Q Now, Doctor, I'm gonna spend some time talking about what we marked as Exhibit 9, your report, supplemental MDL report. So can you get that in front of you, please?
A Is that this --
Yes. I have it in front of me.
Q Great.
And I'm also gonna just mark for reference the MAS second supplemental report that is dated February 1st, 2019.
(DEPOSITION EXHIBIT NUMBER 11 WAS MARKED FOR IDENTIFICATION.)
MR. EWALD:
Q And, Doctor, you made reference at the beginning of the deposition about Judge Wolfson's order. Are you intending to rely on the PLM analyses that are contained in your February 1st, 2019, report?
A I would guess that's up to the current judge to decide, because, as I understand it,

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that there's new science on that. And that was all about the amphiboles. And, you know, we -- I think that pushed the science along on the chrysotile. So I think there's additional science on this type of work. And that's about all I can say about that.
Q And -- and I'm not asking you, obviously, to take the lawyer, you know, perspective or determining what the judge will do, but do you -- is it your opinion that the work you've done with PLM and chrysotile impacts the reliability of the PLM amphibole testing contained in your February 1st, 2019, report?
A I don't think it impacts it at all. No. I've got, you know, Dr. Sanchez, who's a critic of the chrysotile, testified, I think, in -- I forget which court it was -- that he was in agreement with the PLM analysis of the amphiboles in the MDL samples.
So it's -- you know, it's an interesting dilemma when a standardized technique where there was really no criticism from any -- any experts about the PLM analysis for amphiboles, that's fairly -- you know, that was

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straightforward.
And we were using a heavy liquid density separation that was published for specifically amphiboles in cosmetic talc. That was published by Dr. Alice Blount in 1991.
Also, the New York -- the State of New York Environmental Laboratory, ELAP, proficiency testing program, has a PLM method using heavy liquid density separation for finding tremolite, and -- and it's PLM. And those folks, they have to put standards together and be inspected, et cetera.
So the PLM method for amphiboles was really something that was never at issue. It was the TEM -- you know, it was -- really, for the -- for the hearing, it was all about asbestiform and the TEM analysis. We really didn't get a chance to talk much on redirect about the PLM analysis. So -- so it's been published. It was all Blount.
And, you know, the only difference between what our lab found and what Lee Poye's lab found, you know, to me, that's just -- to me, that's -- that's not a big deal. Certainly not rely on the -- on the non- -- the non-heavy

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liquid density separation or et cetera. But to me, it was -- it was not really a controversial thing. It was kind of surprising. So, you know, that's about all I can say about it.
But, you know, clearly, she -- you know, she struck it, Dr. Wolfson.
MS. O'DELL:
Judge. Judge Wolfson.
THE WITNESS:
What did I say?
MS. O'DELL:
Doctor.
THE WITNESS:
Jesus.
MS. O'DELL:
Judge.
THE WITNESS:
All right. I've got to quit for today.
Just kidding.
MR. EWALD:
Q When you say that the PLM without heavy liquid separation --
Let me withdraw the question.
You've indicated, I believe, that the

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differences between the results between your lab on the PLM without Blount separation and Mr. Poye's lab at the time, J3, was not a big deal. What do you mean by that?
MS. O'DELL:
Object to the form.
A Well, we -- we -- we had, you know, increased the resolution of our -- our Olympus microscope where we fitted it with a -- an infinity objective lens and then put it all on a high-resolution monitor with a high-resolution camera and spent a lot more time analyzing samples than you normally do.
You know, and then I had a -- I had a discussion with Lee about it, what he did versus us, and then his next deposition he said he didn't recall that.
But then he said, oh, well, it must have been when he called me, how I was so excited about objective lens, new objective lens. I mean, that's not really what the conversation was about.
But it's not unusual for our laboratory to find trace amounts in samples by PLM less than

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.1 percent, because we were routinely doing that and developed a method to make it a little more sensitive back in the day when we were involved in property damage cases that were W. R. Grace's vermiculite.
So you have -- you have a method that is an official State of New York ELAP method that's published. You have a method in a peer-reviewed paper by Dr. Alice Blount using -- determining amphibole asbestos, tremolite, using PLM and heavy liquid density separation, as well as the ELAP program for New York. It's unclear how it's not verified or unscientific. To me, anyway.
Q The reference to your lab work with vermiculite prior to working in talc litigation, explain to me how that impacts your PLM work in analyzing talc for the presence of asbestos?
A Because some of the vermiculite got into the asbestos-added product, such as W.R. Grace fiber, being MONOKOTE 3, or U.S. Gypsum's Firecode V, type D, which both contain Libby, Montana, vermiculite. And at that point, we used to have an XRD system, and we

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analyzed something like three- or four hundred vermiculite samples. And three- or four hundred vermiculite samples were positive for tremolite.
And from there we went to PLM -- and we knew it was there -- to look at its fibrous content. So we had dedicated -- you know, we have PLM analysts that were shown that it is there, and they could find it at .1 percent or .01 percent. So it's just something we routinely did in the property damage litigation.
Now, we -- we moved that XRD up to our Raleigh lab after that, and then when we sold the Raleigh lab, it went with it. But it was such that we did not need to use heavy liquid density separation to find it by PLM because it was about a .1 or .01 percent. Probably higher, but that's what we would usually find.
Q And what time frame are we talking about when you're doing that analysis or MAS is doing that analysis?
MS. O'DELL:
Would you mind repeating that, John? You didn't come through clearly.
MR. EWALD:

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Sure.
Q What period of time was MAS doing the vermiculite analysis that you were just referring to, Doctor?
A Approximately 1991 to about 1995 or so.
Q And is -- is it your position, Doctor, that that PLM work with vermiculite made it more likely that your PLM analysis -- analyst would detect asbestos at trace levels in cosmetic talc samples?
MS. O'DELL:
Object to the form.
A No. I mean, you -- you would have to have -- you would have to have -- you would --
Strike all that.
In my opinion, you have to have some kind of standard to show you what it's looking like so that you can understand that you're dealing with things that are 10 microns in length.
I think the average size we got with SG-210 --
Now, I'm looking at the supplement expert report, October 9, 2023, where we went

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through this exercise.
Where is it? I know it's in here.
Chrysotile intergrowth standard. Bundle size, section 6. Here it is.
The Calidria have the average length of 8 microns and an average width of 1 micron.
And if you go over here to Gold Bond, the average length of the chrysotile in the Gold Bond, which is Montana talc, was 9 microns, and the average width is 1.4 microns.
MS. O'DELL:
Dr. Longo, would you identify what pages you read from, for the record?
A So I'm reading from pages -- page 4, .1 percent SG-210 spiked bentonite clay.
And then I'm reading from page 5, which was analysis of Gold Bond, and it was eight samples.
So, in my opinion, in order for you to know what to look for, you have to see something that's representative, that you know it's there. So you -- you take a chrysotile product that is in the similar size range, and you start looking at that first, just without anything so you can

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get used to what the refractive indices are, as well as its size.
MR. EWALD:
Q So is it your testimony, Doctor, that before 2020, your PLM analyst had never come across Calidria?
A I'm sorry. I didn't catch the question.
Q Is it your testimony, Doctor, that before 2020, your PLM analyst had never analyzed Calidria?
A No. We've analyzed Calidria in the past, because we've worked on that. But it was usually all RG-144, which we had five pounds of, and we did, you know, air samples.
Now, if you go and look at what the average size is for RG-144, you get very small stuff, but you also get very large stuff.
And I was just looking around for --
Anyway, I'll find it.
Q Okay.
A We had done -- we had done just typical work of looking at what the average -- what the average size was for RG-144 for the bundles

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because there was somewhat of a dispute that the structures in the Calidria RG-144 was gonna be less than -- the overall average would be less than 5 microns. And that turned out to be not true.
But we also did an average, and I think the average was around 70 to 80. But we had very small stuff, too. So we were unable to work with that.
But the SG-210 chrysotile really was a much better fit for what we were finding in the PLM.
Q And that analysis, we are talking about the SG-210 as being a better fit, that was in September of 2022?
A Yes. That's the one.
Q Why did you spike Calidria .1 percent in bentonite and not talc?
A Because I wanted it to be pure chrysotile. I didn't want anything interfering with it, such as, oh, you're -- that's probably talc that you're looking at. And bentonite clay doesn't have any talc in it. And, according to Mickey Gunther, Calidria doesn't have any talc in

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it.
So I wanted it to be something that, yes, this is definitely chrysotile, and it's a 1.550, and this is -- and we're getting the same refractive indices in 1.550 that we were seeing for the chrysotile in the cosmetic talc.
So it was eliminating all the potential confounding materials that could have been in there, like, oh, you're just looking at another talc fiber, as I say.
Q As a new spike .01 percent of Calidria in bentonite?
A I believe so.
MS. O'DELL:
Do you need to get that report?
THE WITNESS:
I've got it right here.
MS. O'DELL:
Okay. Good.
A Yeah. On page 4, table 1, we have samples CSM .1 percent B, and B stands for bentonite clay.
MR. EWALD:
Q Let's make sure that you're now

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referring to your October 9th, 2023, report. Is that right?
A Yes.
Q All right.
A I think I have the same data in the -- in the other one, too.
Q And which page are you on, sir?
A I'm on page 4.
Q All right. On table 1, I see on page 4 is .1 SG-210 spiked bentonite; right?
A Correct.
Q And, then, my question -- I'm sorry if I'm misunderstanding -- did you spike .01 percent or lower of Calidria in talc?
A Well, we have an analysis where we spiked what we talked about, where --
Let's see. I've already lost that document.
-- where I said, oh, that's -- that is an error, the 2022 one.
Q Okay. And in looking at it, Doctor, I -- I mistakenly asked that last question. So I'm not trying to cut you off on whatever you want to tell me, but it wasn't my intent to ask.

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So --
A Okay.
Q We can -- we can get back to 2022. We probably will.
But my question I intended to ask was whether you had -- if MAS has spiked bentonite with levels of Calidria below .1 percent.
A No. I don't believe so. I think that was the only one we put together.
Q And why not?
A I want to say "what for?" We have spiked talc with lower levels, and we also have -- you know, just generated a new set of Calidria SG-210 in talc going all the way down to .000 -- maybe four zeros and a one that we'll be working on to have a new standard for the -- for that. But there's really no reason to. I just was looking for something where you would easily find the chrysotile, .1 percent, and you're in a matrix that does not have any confounding minerals in it, such as chrysotile, from the standard or -- and/or talc plates and/or --
This was to look at and go this will be a clear indication that this --

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Because chrysotile is only -- the only thing in there at 1.550 are we gonna see the same types of refractive indices we've been seeing in the cosmetic talcs.
Q Fair to say, Doctor, that the percentage chrysotile by weight that you are finding with your PLM chrysotile method is levels of order of magnitude lower than .1 percent?
A It is. But I guess I'm not explaining myself very well.
Q Okay.
A It was not a study of how low or what is our best detection limit for chrysotile in cosmetic talc. This was all about the what are the refractive indices for a chrysotile product that would be in there without any fibrous talc, without any platy talc, without any chrysotile coming from the talc itself, and see how that compares to what we're seeing in the cosmetic talc. That was what this study is.
What you're asking about is what we're in the process of doing now, where we have all the way down to -- I think it is three zeros and a one and maybe even further than that where we

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have the standard made up, and we will be analyzing those a little bit more robust than last time -- some pictures of it, et cetera -- so that we know what our detection limit is on the PLM, the standard.
Q And that standard -- sorry -- that you're referring to that's in the process, that is a talc -- is it a J&J talc sample?
A Number 13.
Q Okay. And you're talking about spiking that J&J talc sample with .0001 percent of SG-210?
A Correct. All the way down to 0.0001. And we have done the same thing with TEM, but we've already got that data with the SG-210 to see what our bottom line detection limit is.
Q When you say the same thing with TEM, you're referring to the amphibole heavy liquid separation method?
A Well, no. This -- the chrysotile method. But we're not -- I'm not satisfied that we have the most optimum method. So we're gonna have to redo it when we finally develop the most optimum method for extracting out the chrysotile

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out of the cosmetic -- out of the talc plates and fibrous talc. Getting close.
Q I'm sorry, Doctor. I'm confused. The --
You said earlier, you were talking about you have done the level of detection analysis for TEM. Did I hear that correctly?
A Using -- using SG-210.
Q And did that involve heavy liquid separation?
A It did. But we're -- but we're -- have a standard. We're using Calidria at concen- -- at known concentrations so that we can have an idea of what our percentage of recovery is. And I'm not sure we have the exact right recipe for the most -- the most efficient way to extract the chrysotile out of the talc.
Q Is --
What you're talking about is something that's a work in progress that has not been published; right?
MS. O'DELL:
I'm sorry, John. You didn't come through clear. What did you say?

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MR. EWALD:
Q Am I correct that what you are talking about, Dr. Longo, has not been disclosed in litigation yet; right?
A That's correct.
Q And is there any difference in your mind on how the heavy liquid density separation effectiveness would work in PLM as opposed to TEM?
A Well, TEM, you're gonna be able to see single fibers. PLM, you cannot. So you're looking at two different populations of asbestos structures. The only thing PLM can see is bundles, and the bundles have to be about anywhere from four-tenths to at least up to one or two microns wide. Half a micron wide is probably the smallest you can see. If you're dealing with chrysotile, especially Calidria, the average size of those are about .02 to .03. So you -- you've got two different populations.
It's -- it has been -- it has been known in the field -- in the scientific field that your PLM results are never consistent with your TEM results, because you're looking at --

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If you think about it, especially for amphiboles, you have something that is 200 microns long, you can easily see that in PLM, but that's gonna look like a log under TEM. It would -- it would transverse the entire grid.
There's all -- been all kinds of theories about why it is different, that it's too big, you know, falls off, et cetera. So it's not unusual to get different results.
Q I understand, Doctor. And I understand the -- once it gets under the microscope, the differences of what can be resolved.
My question is you're talking about the recovery efficiency of the heavy liquid method. Is that something that would differ when you also put it under a microscope that is PLM or TEM?
A Well, it would affect both. Because you want the most sensitive method you can have on the detection limits. You know, it's not gonna affect that you're not gonna see anything, I don't think. I mean, we just don't know yet. But I would like to start with going, okay, this is the most efficient method to extract out the chrysotile.

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Q Is it your testimony that, sitting here today, MAS is not using the most efficient method to extract the chrysotile?
MS. O'DELL:
Objection. Objection to form.
A MAS doesn't know that. We're using a pretty efficient system right now that I think we're getting -- you know, we're about there. You know, I've always thought we were using the most efficient system. But I want the -- I want to know for a fact. And then, you know, we go on to, you know, the TEM, too.
MR. EWALD:
Q And what is your current under- -- what is your understanding of MAS's current efficiency method for extracting chrysotile from talc?
A I can't -- I'm not gonna -- I can't really say what our efficiency is, is it 90 percent, is it 80 percent. We still have a little bit more work to do on it.
Q Okay. So, as you sit here today, you can't testify as to what the average efficiency of MAS's chrysotile extraction method is?
MS. O'DELL:

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Object to the form. Asked and answered.
A Again, it could be as high as 80 to 90 percent right now. They would have to be -- go back over the data again.
Q What's the lower range?
A Oh, the lower range goes way back when when we were using, like, 2.72. And that was when we were trying to figure out why it was showing up in the pellet. I mean, we were still seeing it. It's not -- it's not that we're not identifying it in PLM. We were finding it and verifying it and had the right refractive indices, et cetera, et cetera. You just want to have the most efficient method if you're going to be quantifying it to some degree. And you also want, in TEM, you want to be able to say we have the method that gives us the highest sensitivity. But it wasn't going to affect our ability to identify it by PLM.
Q That was a little unclear, Doctor. And I apologize. I'm sure it's my fault. Are -- have you started -- has MAS started analyzing cosmetic talc for the presence of chrysotile

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using TEM?
A We have not started analyzing any cosmetic talc Johnson Baby Powder samples using TEM.
Q Is MAS analyzing any cosmetic talc samples by TEM for the presence of chrysotile?
A I'm not saying we have, and I'm not saying we haven't. But that work right now is confidential.
Q All right. So, Doctor, we have the test results that are reported in your February 1st, 2019, report that addressed the amphibole analysis and the PLM --
Well, withdrawn.
We have the results, test results, of MAS's analysis through PLM and TEM of J&J samples for the presence of amphiboles in the February 1st, 2019, report; right?
A Correct.
Q All right. So I want to leave that aside for the moment. And when we're looking at Exhibit 9, the fourth supplemental report, there is a set of tables at the end of the report that list a number of samples. I'm sorry. List a

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number of test results. Correct?
A Correct.
Q And, specifically, we have 43 analysis results by MAS for talc containers; correct?
MS. O'DELL:
Would you mind repeating that, please, John?
MR. EWALD:
Sure.
Q If I'm looking at what was marked as Exhibit 9 --
Maybe an easier way to do it is this. I'm looking at what was marked as Exhibit 9. If I go to the last two pages, Doctor, I see eleven test results for analysis of Chinese retains; right?
A Correct.
Q And then, preceding that, there's a list of 43 analysis results of J&J talc products. Correct?
A Correct. All sourced from Chinese -- China, starting off with the 2004 --
I think the highest ones we have in here is 2019 and 2018, which, of course, the 2018

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ones finding chrysotile --
I think they were 2018.
-- would be consistent with the FDA's analysis of off-the-shelf Johnson Baby Powder from Guangxi that AMA found. Out of the bottle, there was three splits, and two of them were positive for chrysotile.
So they weren't using heavy liquid density separation, but they certainly were verifying that there is chrysotile in Guangxi, Guangxi mine. That's not the Guangxi mine. That's -- that is the province. There are about four mines there that have been used over time.
Q All right, Doctor. I just want to make sure the record's clear. This list also contains, on the previous page, three Vermont samples; correct?
A Oh, yeah. I forgot about that. I missed it when I was going through. Yeah, three Vermont samples that we found chrysotile, I think. Oh, there they are. Samples 1, 2, 3, the Weirick, Zimmerman, and Colley.
Q All right. And, so, that actually, when you add up the chrysotile -- I'm sorry --

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the China with the Vermont bottles listed here in your report, you get 46 bottles that have been analyzed that are included in this report; correct?

A Correct.

Q And combining the test results that are included within your February 1st, 2019, report and what we just looked at in your fourth supplemental MDL report, are those the MAS testing that you are going to be relying on for your opinions in the MDL cases?

A Well, I would be relying on them showing the advancement in science on PLM analysis that was not there four years ago.

For the amphibole analysis, we have very -- yeah. We -- most all those PLM samples have TEM samples along with it that show that it's positive.

And, plus, we, of course -- you know, if you're looking at Daubert, I guess, for the amphibole asbestos, it's been published in the peer-reviewed literature by a scientist that was consulting for Johnson & Johnson who published a paper showing that there was asbestos, amphibole

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asbestos, and talked about heavy liquid density separation and so many top plates, et cetera, et cetera, plus that.

And, again, the CSM method, not a Longo method -- this is the Colorado School of Mines method, and they showed positive results. But the analysis is a lot the same, because they're basing their chrysotile identification on the refractive indices of the product. They're doing PLM on it and they're doing -- they're developing refractive indices for the analysis.

So, no. Has it been published in the peer-reviewed literature? In my opinion, it probably would have if it wasn't deep-sixed, in my opinion, by Johnson & Johnson.

Q Do you have any basis --

Well, are you willing to testify, to a reasonable degree of scientific certainty, that the Colorado School of Mines' PLM chrysotile heavy density liquid separation analysis was not published because of actions taken by Johnson & Johnson?

A You know, you have a good point. I don't know if Johnson & Johnson would have

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published it. But, in my opinion --

And it's -- I mean, it's not -- it's almost facts instead of opinion. You know, the documents that were released by Johnson & Johnson I believe proves definitely that this was a method that they did not want to have out there, going all the way from --

Is this where I have it? No. It's the other one.

Excuse me for fumbling around here.

Q That's okay.

A So if you go to the April 29th report --

And where are we here on this? I thought I had it in here.

Oh, here we go.

If you go to the discussion/conclusion section on page 3 of the April 29th, 2024, report, it goes into development of this -- of this procedure starting on page 3, you know, Colorado School of Mines with HLS sample preparation.

And, then, as we move along on what they did, on December 27th, 1973 --

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Okay. I'm gonna read here this. "Colorado School of Mines prepared the following report for Johnson & Johnson. A procedure to examine talc for the presence of chrysotile, tremolite-actinolite fibers for project C10704," and then it goes on to say "this CSM report provides the methodology using double-density heavy liquid separation for chrysotile and amphibole asbestos. It reports detection limit of 10 ppm" -- and they've got it at .0001 percent -- "and verification of asbestos type after separation."

And, as I talked about earlier, if you go to page 6, they used -- they use a sentence here that I've used in court and before. "The impurity level becomes very low, a double less than 1 percent. It is necessary to examine amounts of sample -- examine amounts of sample in order to detect the impurity. As a result, the requirement to detect the proverbial needle in the haystack, we have involved a procedure which preconcentrates the impurities prior to examination. The net effect is that a large initial sample is fractionated in order to reject

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the majority of further examination."
Now, if we go down, here's Johns Manville asking this about it. "Another indication of how confident the CSM was in their double density separation method is that they informed Johns Manville they thought this heavy liquid separation method they developed was good enough to be considered for a patent."
And I won't go through all of this. But here's why I think, in my opinion, that they pretty much shelved this method. And this comes from a...
Okay. If we go to the next page, I mean, here is we have "Johns Manville is interested in this material."
If you go down under October 29th, 1973, letter, "specifically, we are interested in your advanced technology used to separate felted masses of asbestos by heavy liquid separation proprietary [sic] to stain -- before staining chrysotile by iodine as worked out by Morton Baker of Johns Manville." He goes on. He says "I understand your position completely on specific techniques being worked for other

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companies which are proprietary and, as you indicated, will probably be patented."
So it must have been a pretty good sample if they're thinking about patenting it.
Now, we go to page 7 and we look at -- and I go in and say why I think it was never used is that Dr. Nashed of J&J received this report on May 23rd, 1973, in which it states "the limitation of method is that it may be too sensitive."
Then we have a February 18th, 1975, memo to Dr. Rolle where he states "I have also enclosed our test method for the proposed X-ray technique which was drawn out by Boots L-e-d [sic] in conjunction with Dr. Pooley."
The Yardley method is essentially another heavy liquid density separation method. In here he states "we deliberately have not included a concentration method, as we felt it would not be in the worldwide company interest to do this."
Q All right, Doctor. So you said a lot of stuff there, but you mentioned at the beginning of that discussion that you'd used in

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court that needle-in-the-haystack reference before; right?
A Well, yes. I used it as an example to -- to -- to help the jury understand what heavy liquid density separation is.
Q Right. And, for example, you used that --
Sorry.
A When I couldn't --
Q And, for example, you used that in the England trial with Mark Lanier; correct?
A Yes, sir. And this was before I saw these documents.
Q So when you were using the needle-in-a-haystack example, your testimony is you had never seen the Colorado School of Mines document with it referring to needle in the haystack?
A No. If I had -- if I had seen this back in the Ingram, things would be different. I would have started right off on trying to go after the chrysotile.
Q So did you come up with needle in a haystack or did Mr. Lanier come up with needle in

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a haystack?
MS. O'DELL:
Object to the form.
A No. I was looking -- I think it was me. I was looking for a way to easily explain to a jury what heavy liquid density separation is.
Now, you have hay, which would have a density much lower than needles or steel. Those float. The needles go to the bottom. And you can just -- you know, if you hold up your water bottle and you go, now, if my needles are down here and I can just top this off, I can open this, out they come, while all the hay stays up here.
MR. EWALD:
Q So --
A If he came up with it, I told him.
Q Okay.
A I'm just kidding.
Q So we're coming up pretty close to an hour, but I do want to finish some quick hits.
A You've probably got some questions about this.
Q So before that last discussion, you

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mentioned J&J consulting -- consultant publishing peer-reviewed literature, something about the concentration method. What are you referring to?
A Well, I -- I withdraw the "published." What I'll not withdraw is they had a perfectly good method -- I mean, they had positive results -- that after 1974 was never mentioned again. In the mid-'70s, they're hiring experts like, you know, McCrone and others, to start looking for asbestos. They never told them about this heavy liquid density method that the Colorado School of Mines developed, and they never put it in their own protocol for J&J for their TEM method, 70042 or 70024, one of those numbers. You know, it was all your regular dilution method, which gives you horrible detection limits.
You know, the heavy liquid density allowed us to get detection limits of anywhere from, you know, 8- or 9,000 to 10,000, where all the TEM methods out there have detection limits, depending on how many grid openings they look at, anywhere from 5 to 6 million up to 15 million fiber bundles per gram to find one.

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When FDA was struggling with their -- they want to develop a heavy liquid density separation and sending out notices and -- and, you know, and all the documents I got about FDA trying to do this in '74, '75 -- sorry -- '71, '72, they didn't have any luck. They weren't technically good enough to make their own heavy liquid density, and they're putting it out there for people to see. Johnson & Johnson's looking at it and not saying a word.
Johnson & Johnson didn't -- did not instruct the RJ Lee lab to use heavy liquid density separation in their analysis to show that, if there's amphibole asbestos in there or not. You know, there's one reference to using Blount's method for TEM, not for J&J, for some other product. So RJ Lee certainly knew about it.
So that's why I say they did not provide that to any consultants. And, to me, it feels like they were keeping this a secret because it was too sensitive, like they state in their memo.
Q You also mentioned that there have been

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an advancement of science with respect to PLM analysis over the last four years. What advancements are you referring to over the last four years that weren't there when Judge Wolfson issued her opinion?
A One, the big advancement is finding chrysotile. It's using better, little optical -- PLM optical microscopes, a better resolution. In fact, we haven't incorporated it yet, but Leica came out, first over, a central-stop dispersion objective lens, which is normally 10X is now 400X. But I'm in the process of validating it. We -- we have -- we didn't have, you know --
Judge Wolfson, we weren't doing chrysotile at all. We were able to find references of the standard PLM methods that have come out that I wasn't aware of the ELAP, New York, you know, environmental laboratory for sufficiency testing for doing heavy liquid density separation for amphiboles where they called the heavy liquid anything higher than 2.76 or 2.7.
We had much -- you know, we had much better equipment, and really, the -- the PLM

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analysis that we were using, the protocols have been around for years and years and years. It's -- it shouldn't be a method that is disputed.
Now, there is -- you know, people are looking at that, so -- and, you know, to be fair, Judge -- Judge Wolfson, we didn't really have a chance to address much of anything in the hearing for redirect. It was cut off. I think if we had a chance to have 20, 30 minutes on redirect in that hearing, we could have answered some of those questions.
Q All right. We've been going about another hour.
A Yeah. If we could take, like, a 20-minute, 30-minute lunch.
Q Okay. Let's go off the record first.
VIDEOGRAPHER:
Okay. Off record. The time is 1:39 p.m.
(OFF THE RECORD.)
VIDEOGRAPHER:
Back on record. The time is 2:19 p.m.
MR. EWALD:

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Q Okay, Doctor. Back from lunch, and I wanted to follow up on one of the things that I asked before the break. And we talked about the reports -- I'm sorry -- the analysis of bottles that are identified in your fourth supplemental MDL report. And am I correct that there have been additional MAS PLM chrysotile tests of J&J talc products after the reports listed in Exhibit 9?
A Other than what we have here, I'm not aware of any.
Q Well, for example, the Henderson or Kirch?
MS. O'DELL:
I don't know what you're referring to.
MR. EWALD:
Q Do either of those names ring a bell, Doctor, Henderson --
A No. Because I don't remember issuing any more reports. Now, I -- I don't recall issuing any more. But if -- if one --
Q And maybe it's something we can, you know, take a look at on tomorrow. But the --
A Yeah, if you have them and have an M

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number, I'll -- I'll check.
Q Okay. So, for the record, there's one that appears to have been issued shortly after the Newsome --
Newsome analysis, I believe is the last one, by M number, on your chart, and I have a Janine Henderson that was MAS project number M71730.
MS. O'DELL:
Would you mind giving us that number again, please?
A I've got it. M71730.
MR. EWALD:
Q It was issued on, according to the front page of the report, 11-28-2023.
And then I believe the only other one that I'm aware of but I didn't see was one that was issued in February of this year in the Kirch case, Michelle Kirch, which is M number M714 -- oh, sorry. M71740.
A Well, you've got the M numbers, et cetera. I certainly wouldn't disagree with that. I just had no recollection that we had more work. But I will dig those up. Because we

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haven't -- we haven't updated the chart in a while.
Q Okay.
A Which needs to be -- it needs to be done.
Q From a procedure perspective, how the CSM procedure that MAS is doing is conducted, has it changed, to your knowledge, since the Newsome report, which is the last one in the end of 2023?
A No. We have the density of 2.65. We have the -- the refractive indice [sic] fluid is 1.560, and the amphibole PLM analysis is still the same, you know, from the ISO 22262-2 method where we're using 2.85 for the TEM.
And for the New York ELAP method, it states that it has to be greater than 2.75 or 2.76, and we're using 2.78. And that hasn't changed for a while.
Q Your --
Do you remember being deposed in the second-day session in the Clark, New Jersey, case by my colleague, Kevin Hynes, last month?
A I remember that.
Q Has there been any developments in

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MAS's PLM chrysotile method since the beginning of last month, April of 2024?
A No. We're still doing the same thing for PLM.
Q Okay.
A That doesn't mean, you know, in a week or two, you know, we'd make another modification.
Q Right. And I guess it's a -- more a legal question than a question for you on where the disclosure times end on the MDL. So I don't need to get into that.
What I want to talk about is, for lack of better phrase, the origin story of MAS and the PLM chrysotile work. So walk me through when MAS first started working on trying to come up with the PLM chrysotile method.
A It initially started February 4th, about two -- about four or five weeks before February 4th, 2020, where, when we first -- must have been around that time I came across the Colorado School of Mines. Because we initially started using what they said they did, is use iodine, which will bind to chrysotile and not to talc.

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Now, you know, maybe it wasn't really clear it would bind to the polymorphs or not. Then they would use that and take their samples and then go look at PLM.

So we started doing that, and it worked great with the NIST 1866b standard. I mean, it would turn a brownish-blue, and you could pick it right out of the black.

What we didn't count on initially is the size of the structures. The -- the size of the chrysotile being found in the talc was too small to absorb any of this iodine at enough that you could actually see it.

So there was a misconception initially that we were using the iodine to identify chrysotile. That was not really -- that was never the reason.

Colorado School of Mines says this was an easy way to see what you were looking for than to grab and take it and go get PLM and verify it's chrysotile.

So we had to stop that, and we had used the -- we had used it on some standards, the 1866b standards, and I believe that the FDA

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showed some of that, as well as talking about the -- the heavy liquid density for amphiboles, both PLM and -- and TEM, and also showed FDA the protocol that Colorado School of Mines had. I think it was in there, you know, '73, and how they developed it. And then it went from there.

We tried to use the NIST standard to -- to verify the percentages, and -- and we had too high percentages, and that's when we went to the Calidria, somewhere in that time frame.

In the -- in the chrysotile from Union Carbide, the RG -- the SG-210 and the RG --

I'm just having a -- RG-44, was it? Something like that. It's in the report.

-- and saw that it had a bunch of small ones, and we saw that it was giving, and so our PLM analyst at the time, Paul Hess, started figuring out very quickly on what to look for.

And that's when we also started doing the standards, and I wanted to make sure we weren't misidentifying fibrous talc or talc plates on edge.

And we went through a series where once Paul Hess and another analyst here got to the

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point where they could find it without heavy liquid density separation --

And it was very puzzling because the CSM method was showing lower results half the time than the ISO method without any heavy liquid density separation. But most of the time, it showed a higher percentage of smaller -- smaller structures.

Say you would have a concentration of, you know, .001 or .005 for the ISO method without heavy liquid density separation, and then the CSM method, which is supposed to be more sensitive, you know, you might have a .003, lower amount, but you had more structures, more small structures.

It was kind of baffling for a little while, until we looked -- went and looked in the pellet. And there was more in the pellet than there was in the light fraction, which made no sense.

Came up with various theories on why, but, at the end of the day, it just was about how long you spin it. That's why I saw the time jump up to 72 hours.

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I think we -- you know, and we want to back off that. And that's giving us, I think, the most efficient --

And, finally, I did a very simple experiment. Just put the Calidria or the chrysotile SG-210 in the heavy liquid density material by itself, no talc, no anything, spun it for 72 hours, and every bit of it was up in the top.

Now, the talc issue causes the material to separate it out. So you think about you're in a tube -- or say you're in a tunnel. You've got to go straight up. But there's these big ceiling tiles all on top of you. And the ceiling tiles, because of the gravity, is beating full down. So you've got to fight your way through it. And that's what was happening.

Also, the surface charge of chrysotile is positive, and the surface charge of talc is negative. They're sticking to each other. So we started looking at maybe a way to change the surface charge. And we went -- we've gone to organic heavy density liquid separation, but that's -- that material, methylene iodine, it

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is -- it's fairly dangerous.
So we're using a water-soluble one, and we're -- we're working on that to look at the centrifuge time.
So it's just -- it was not as straightforward as the Colorado School of Mines laid out. They didn't put any of this in it. They didn't look at this.
And you can look at their concentrations, that they had 0.00001 to 7 percent. That's a lot higher -- that's a lot worse detection limit than what we're seeing. So I think they were losing material in their analysis. But they did do really good work.
You know, from there, we -- so we go, okay. We -- we did the 7.2, which didn't make any sense, but that was giving us the highest return. We now got the 2.65, and we may lower it from there.
Q Okay. Thank you.
Circling back to the beginning of the story, so you say February 4th, 2020, is the day that you and others give the presentation to the Interagency Working Group; right?

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A Correct. You know, you could either -- it wasn't that you were invited to do it. You know, if you wanted to give a presentation, you just had to put an abstract in, all your -- you know, all your things and what you were gonna talk about, and they could either say yea or nay.
And, so, that's -- that's what I did. I talked about that the amphibole was pretty clean, that we weren't having really any issues with that. You know, and -- and that had some effect on it, because the -- the -- the Interagency Working Group wanted their recommendations as to look at research to look at the heavy liquid density separation for amphiboles only.
Because at the time that we gave the talk and also in December 10th of 20- -- of 2019 at FDA, you know, I told them that chrysotile was not feasible at the moment, or at this time. So their recommendation to FDA was to use the heavy liquid density separation for amphibole asbestos for their -- for their work, their working group. But the --
Q Didn't you tell the Interagency Working

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Group --
MS. O'DELL:
Excuse me. He was not finished with his answer.
So if you could --
MR. EWALD:
Q Oh. Go ahead.
A So the chairman of the committee that invited me to come talk sent FDA a letter saying that they would not support the methodology for -- for regulating cosmetic talc unless they used the heavy liquid density separation that I proposed at the FDA meeting.
Q I'm sorry. The -- I got lost there. You're talking about what you proposed after -- at the February 4th, 2020, meeting?
A No. What I -- what I got asked, which was the most sensitive method to use at the -- at the testimony in front of Congress. And they wrote a letter to FDA, said that they needed to incorporate this in anything they did or they wouldn't support it.
Q And "they" being the committee or -- or some subset of the committee?

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A Well, it had the chairman's name on it, so I'm assuming it was the subcommittee.
Q But with respect to a February 4th, 2020, meeting, you talked about amphibole, but you recall telling the audience on February 4th, 2020, that MAS had cracked the code on PLM heavy liquid separation; right?
A We didn't crack it, but I don't think we got all the codes.
Q But that's -- that's not what you told the Interagency Working Group on February 4th, 2020; right? You said you cracked the code.
A I did say that. But I did show what data we had so far, and that it not really was ready for prime time.
Because you have to understand, when you say crack the code, the prevailing thought in the -- was that you could never do heavy liquid density separation to separate chrysotile out of talc. It was in -- the closest they came to anybody saying that was in the ISO 22262-2, chapter -- I mean section 16, like, second page, and that was, you know, Dr. Eric Chatfield put that method together, where he stated it's

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theoretically possible to separate chrysotile out from talc, but it's not practical.

And, so, my opinion about that statement is he's absolutely right. It's past the theoretical portion, because it can be done, but it's not very practical. It's a lot of work involved. And he did a lot of work to get it to this point.

And, you know, to me, this would have been a -- a -- a Ph.D. project at a research lab, at a university somewhere. You know, Colorado School of Mines, they probably had graduates working on this and they came up with the method in 1973.

But we're not a research lab. I mean, we don't get funding from grants and et cetera to work on stuff like this, so we've got to do it on our own time when we're not doing other work. So it takes awhile.

Q We'll get back to the February 4th, 2020. But when you talk about not funding for PLM chrysotile work, are you testifying that you did not receive any funding from plaintiff lawyers in creating the PLM chrysotile method

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that MAS uses?

MS. O'DELL:

Object to the form.

A Hold on for a second.

MS. O'DELL:

Let's go off the record for a moment, please.

(OFF THE RECORD.)

VIDEOGRAPHER:

Back on record. Time is 2:42.

MR. EWALD:

Q Doctor, I'll just repeat the question or approximate it.

How much funding has MAS received from plaintiffs' lawyers in relation to development of the PLM chrysotile method that MAS uses?

A I mean, we just charge for the analysis.

Now, what we did -- like NavStar's having funding -- is --

You know, you haven't got to this yet.

-- is raise our retainer rates so that we can have some excess funds to help pay for equipment, et cetera, and time being spent on

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this stuff.

Q Right. And, so, am I right that's 50,000 -- five zero thousand?

A For a single case.

Q Okay.

A But not 50,000 for all six bellwether cases. I think they're -- because they're all together at the same time. So you've got -- Rico and et cetera, I think it was around 150 or 175 or something for all six cases.

Q All right. So you were talking about the initial work being done on the PLM chrysotile method about four weeks before February 4 of 2020, so we're talking some point in December 2019? Is that right?

A Sometime before that. And not to the -- not to the level that --

Because I was asked about chrysotile, I think, in the -- in the 2019 hearing in front of Congress, and I think I said it wasn't -- hasn't been done yet.

Q Right.

But around December of 2019, MAS starts working on, in earnest, a PLM chrysotile method.

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Fair?

A Well, it's hard to say earnest. It's like we're doing other stuff. So maybe an hour here, an hour there, you know, let's analyze it doing this, let's try this, let's go to a different, you know, heavy liquid density separation and count it, and on and on. I mean, it wasn't a -- it wasn't like when I was in graduate school getting my Ph.D. You know, you got there in the morning and you worked all day on this stuff.

Q Okay. You start -- MAS starts on working on PLM chrysotile method around December 2019. Fair?

A Somewhere around there, plus or minus a month or two -- no. Plus or minus a month or weeks. But --

Because I know what information I gave out at the -- in front of the FDA, and it certainly wasn't developed. But we were finding.

Q But -- so where did the idea come from?

A To -- which -- which idea is that?

Q Where did the idea come from for using PLM to analyze chrysotile in talc?

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A Because Colorado School of Mines was using PLM to find the chrysotile in the talc. The Johns Manville research center was doing primarily PLM to find asbestos in various types of samples. They analyzed -- and they were using the proposed FDA method -- I think it was '75, '76 -- that was based solely on refractive indices, basically what we're doing now.

But that method took an awful long time to do, because the results were in numbers of fibers in bundles per milligram, not percentages. And they analyzed thirteen samples from one of the manufacturers, but I think they were all from Montana, and they said out of the thirteen, ten were positive, and they were finding significant amounts, and the other two or three they said could possibly, you know, be contaminated.

But everybody who did this method was complaining on how long it took. And, so, FDA, everybody, I think, ganged up on FDA, and FDA didn't go forward --

I mean, they published the method in -- published it, and people were trying it, but they said it took too long. It was too tedious. And

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they're right. This is a tedious method to find chrysotile. So they had a range of IRs it had to be for chrysotile and then a range of IRs that it had to be for amphiboles.

Q All right. So --

A There's others who did that, too. I'm trying to think who else.

So the PLM came from Colorado School of Mines using PLM and finding chrysotile in three out of four samples.

Q Okay. Colorado School of Mines also used during that time XRD in connection with analyzing talc for the presence of chrysotile in its heavy liquid separation method; right?

A Yeah, you can use XRD. I -- I still to this day hold that it's a worthless method, because if it's positive, you've got to do PLM anyway, or TEM. And, also, the problem with it is --

At least if you're using the J4 method, you know, there's a -- to me, there's now an issue, very significant issue with that. I think I have it in the report. But I don't have --

You know, if you get XRD and it's

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positive, you have to do another analysis. So -- and XRD has such a poor detection limit. Would be too many -- too many false positives.

Oh, you had mentioned earlier that what is the consequences of having a 50 percent efficiency versus an 80 to 90 percent efficiency of getting the concentration. Well, the consequences are that 50 percent will have a poorer analytical sensitivity or detection limit than the 80 to 90 percent.

So the consequences are potential false negatives, because you haven't harvested all the chrysotile in there that you can, and the -- and the less chrysotile you have in there that's sitting in other parts of the sample, you reduce your ability to have a really solid detection limit.

Q So why -- why, in or around December 2019, when MAS started looking at a heavy liquid separation method for chrysotile, did you not try TEM?

A Well, let me think back five years. Because of the size that we're dealing with -- and I think I've stated this a number of times --

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one, there is absolutely no regulation anywhere, not by the EPA, not by the International Standards Organization, not by OSHA, not -- not by NIST, not by NIOSH, that if you have a positive chrysotile, PLM, you're not required to go out and get a second opinion on that.

And, as I've said many times, I thought it would be better that before we did this heavy liquid density separation and TEM, that we knew exactly what our recovery rate was and how well it was working.

With the Blount method on PLM, it was pretty much all laid out. We just used that for TEM. We knew what the detection -- you know, that -- what we were dealing with there, and we started right off the bat with TEM and finding, you know, anywhere from 65, 75, 80 percent positives. So that wasn't a hard jump. The chrysotile --

And, you know, we had protocols. International Standards Organization had a protocol for that published -- and that one --

The ISO protocol said you can use PLM SEM or TEM or XRD. Do whatever you want, but use

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the heavy liquid density for the separation.
But you're looking at, you know, well-respected individuals and scientists, and they're saying things like, "oh, well, that's not very practical." So we stayed away from it. Because you've got such a close difference between what the density of talc is versus the density of chrysotile.
So I wanted to make sure that we're getting the highest probability, and if I had the best detection limit and I can't find it by PLM or TE- -- if I can't find it by TEM, then, okay, something's going on.
Q But why wouldn't you start, as you did with the amphiboles, with TEM with heavy liquid, which has a greater sensitivity than PLM?
A For TEM on chrysotile?
Q Yes.
A Well, if you think about the issues we had on solving technical issues as we go along, we would have been sitting there with -- with --
Like, the first time we ran -- the first time we ran the standards with TEM to see what our detection limit was, our detection limit

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was like .1. We knew that's not what was in there. It's -- we -- we had to solve a lot of issues along the way.
I mean, you know, this was really a classic example of the advancement of science. The theory there is you can do it. Practically, you have to work on it.
Q But when you were presumably deciding between whether or not --
Well, let me just ask. Who decided to use PLM to try to find chrysotile in talc at MAS?
A That was me.
Q Okay.
A And you have to think about what you're doing. Using a PLM method in sample prep versus a TEM sample prep is -- is worlds of differences. On one hand you've got a -- you know, that was when we were using those old PLM scopes. You have a two-thousand-dollar microscope, and you can -- the sample preparation is about the same for the two for spinning them down and moving them out, but you can get it into the PLM and do a fair number of samples and take a look and see how it's going, where TEM, you've got to go

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through all those steps. We have to take the -- you know, the hundreds and hundreds of thousand dollar instrument and then go, and it just didn't make any sense to me as a scientist until we're ready to say, okay, this is the best prep ever. If we don't see it with this, we're never gonna see it.
But in the --
Q But that's not --
Go ahead.
A But if you have poor prep and you're doing it over and over and you don't find it, well, what was the detection limit? What's this? And we knew that it was -- that going along doing the PLM would be the fastest -- the fastest way to verify that it is in there.
Q Well, that was the --
When you started for the first time with experimenting on analyzing talc for the presence of amphiboles using heavy liquid separation, you chose TEM; right?
A Chose that right off the bat, because that made the most sense.
Q And, then, when you had the same choice

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as it came to chrysotile, you chose PLM, not TEM; right?
A Well, we're talking four years between the time we started with PLM -- with TEM. And, in fact, I had testified at one time that I didn't think PLM was gonna work. But as we went along, started looking at what we needed to do to make that work versus just your regular everyday asbestos-added products for amphiboles, then it changed my mind.
You know, once you see additional evidence that this is a good method, as long as you're going to spend the time and use heavy liquid density, just like Alice Blount published --
But, to me, the TEM for amphibole was gonna be a lot more sensitive than just PLM method.
Now, this might be reversed for chrysotile. I don't know yet. But I have to get the most efficient harvest of chrysotile out of the cosmetic talc so I know that, if I can find it or not find it, it's not missing something, that I don't have a good prep, because

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preparation is everything for a TEM analysis.
Q Well, if you are correct, the finding --
Withdrawn.
If MAS is correctly finding chrysotile in Johnson & Johnson talc using PLM, then you should be able to identify that on TEM if you look long enough. Correct?
A If -- if you look long enough, et cetera. That -- it doesn't work. You need, you know, you need to have the methodology down. And, again, once you say it's there by PLM, you're not required to do anything else. We are gonna do something else so I can publish it.
Q Why do you feel like --
Well, what else are you going to do?
A Well, we'll get to where --
If I'm gonna publish this, I want to publish and say this is the best, most efficient method we found, and these are the reasons why.
Q And what do you have to do before you get to that point in time?
A Well, I've got to finish up these --
I've got to finish up using the 1.560. You know,

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there's eight -- seven or eight samples there. Each of those are gonna take hours so that I have validated the concentrations by PLM. Then we have to go back and redo the TEMs because we're using 1.560. And we may adjust the heavy liquid density a little bit more, and that's it. But that's -- you're talking months of work.
Q Have --
Am I correct that you have not analyzed any of the MDL samples by PLM for the presence of chrysotile?
A That's correct. We have not.
Q Why not?
A Number one, we weren't asked to do it.
Number 2, we analyzed -- we have analyzed some -- you know, we have analyzed a number of samples from Vermont. We've analyzed a lot of samples from Italian, but not just -- not just Johnson Baby Powder samples.
So we never -- we never did it because we were doing it on a bunch of other things. And, you know, quite frankly, J&J was in bankruptcy, so we focused in on other manufacturers that were using, you know, using

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Italian and using Montana, using et cetera. I didn't think I was ever gonna see you guys again.
Q So is it your contention that you haven't tested an MDL bottle because there was a period of time that J&J was in bankruptcy?
MS. O'DELL:
Object to the form. Misstates his testimony.
A No. I didn't test any of it because the time it really -- we started, you know, really solving issues, you guys went bankrupt. So I focused on others so that we could take a look at Italian, we could take a look at Brazil, we could take a look at Guangxi, the four or five mines there. And as we got going along, you know, we got better and better at seeing these very small structures.
Now, the next step is to get it to that one -- to get it to the level I'm satisfied with so that, you know, we can do TEM and finally put an end to the -- to, oh, you're misidentifying it. You're misidentifying it.
MR. EWALD:
Q Isn't there another way that you can

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put an end to that?
A Is there another way what?
Q To put an end to that.
MS. O'DELL:
Object to the form. Vague.
A I mean, it should put an end to it -- it should put an end to it. I mean, the talk -- the suggestion that we are misidentifying fibrous talc are absolutely wrong. The birefringence is so easy in a clear way to distinguish between these two biaxial minerals. I don't understand how they can keep saying this. It doesn't make any sense to me.
MR. EWALD:
Q Has any -- are you aware of any scientist outside of MAS that has analyzed a bottle or sample from a bottle of talc by PLM and reported chrysotile?
A Um, I don't know. I mean, I don't know what different scientists are out there. I don't know what's been done as consulting experts.
What I do know is not one scientist out there has provided any authoritative information about polarized light microscopy that shows that

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we are misidentifying fibrous talc for chrysotile. It makes absolutely no sense. Either they don't understand birefringence or they don't understand the PLM process or they don't understand how birefringence is measured, and they probably don't understand about the Michelle Levy charts where you do a -- you compare your lowest -- your lowest refractive indice [sic] to your highest refractive indice [sic] and then you look at the -- the width of the structure, PLM, and the width will cause a difference in your birefringence. And a difference in birefringence can only happen if the width is causing a difference in the refractive indices.

Q Dr. Longo, are you aware of anyone in the world that has reviewed your images and data from MAS identifying chrysotile by using PLM and publicly agree with it?

MS. O'DELL:

Objection to the form.

A Yes and no. Yes, they have agreed, but, no, they're not willing to go publicly with it. So...

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MR. EWALD:

Q Okay. Who agrees?

A I'm not saying. I -- I gave them my word that I would not use their name.

Q Okay. So we have one individual who you say agrees with you but isn't willing to actually publicly agree with you. Fair?

MS. O'DELL:

Object to the form.

A It's fair that they -- they don't want to be involved in the litigation. But I don't think that has anything to do with anything.

MR. EWALD:

Q Well, you just said -- you've just been criticizing the people that have commented on your work as basically how can they be so incompetent. I want to know if there's anyone that you can identify by name outside of MAS that says yes, Dr. Longo is right in identifying chrysotile through PLM. Anybody?

MS. O'DELL:

Object to the form.

A You know how -- yeah. It's kind of interesting you say that. It's like there's

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thousands of experts that are all involved in this. There's like, what, six? Five?

And I'm not saying they're incompetent. I just don't understand how they can miss the birefringence on chryso- -- on talc versus the chrysotile. You're talking about five orders of magnitude difference. Yeah, you'll get a yellow gold, but it's bright versus a more muted yellow gold. And you look at your data, and nobody's been able to explain where I have intergrowths with both talc and chrysotile in both parallel and perpendicular direction. And when you look at them, it's very obviously there's something different there.

MR. EWALD:

Q Well, you talked about in this litigation. But would you agree with me that submitting your methods, the scrutiny of the larger scientific community is a component of good science?

MS. O'DELL:

Object to the form.

A No, I won't agree with you. I would agree --

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I mean, I think, as a good scientist, you want to get the best product forward. And I've told you that for a commercial lab, it is incredibly difficult to spend the time that we need to finish up all this. Because you guys, it's like you think, okay, well, we should have it right away. So, you know, I can't help you there.

This is an advancement in science. The fundamentals of why, nobody has pulled anything out to say, "oh, it's different." You know, they go, "oh, well, he's misidentified cellulose fibers."

No. If you look at the refractive indices for cellulose, a ribbony cellulose, no competent PLM analyst would have a problem with that.

The difference between fibrous talc or platy talc on edge and chrysotile is the birefringence is incredibly significant. I just don't understand how that -- you know, the mistake. I'm not saying they're incompetent. I'm just saying it doesn't make any sense to me.

MR. EWALD:

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Q So you are -- or MAS is currently finding chrysotile in nearly a hundred percent of the talc containers that it looks at using the PLM chrysotile method; right?
MS. O'DELL:
Object to the form.
A It has. And your point as well?
MR. EWALD:
Q I'm getting there. I'm putting it all in one question.
So the -- that's -- if indeed there is asbestos in nearly every talc container that's on the market, that is something that presents a public health issue; correct?
A Presents what?
Q A public health issue. Correct?
MS. O'DELL:
Object to the form.
A I would agree.
MR. EWALD:
Q And when you told the FDA and the Interagency Working Group on February 4th, 2020, that you cracked the code and could analyze PLM -- you could analyze chrysotile using PLM

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heavy liquid separation, has anybody from any of the Interagency Working Group contacted you for more information?
A Nobody has contacted me. I think the public health issue has dwindled from this. I don't think it's -- at least to me --
You know, I understand that Johnson & Johnson is now taking the talcum powder off the international world. You know, first it was, what, in 2022, North America? So I think this has -- this work on this has helped motivate --
It's just my opinion, and probably, you know, whatever y'all think.
-- motivated to get these products off the market.
Again, I would like to be at a university so I could get this out sooner, but I know this is gonna be heavily scrutinized. I've seen what's happened in the past. You know, you get something out there, and there's a lot of pushback. So I prefer to get it all where we can show every aspect of this, show how -- what we're seeing and why. And I think it will be a good paper.

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Q Are you suggesting that the FDA and the broader Interagency Working Group has not contacted you because some talc has gone off the market? Is that what you're suggesting?
A No.
MS. O'DELL:
Object to the form.
A No. I'm not saying that. I don't think they've contacted anybody. They're working among themselves. So, you know, have they contacted Matt Sanchez? Have they contacted Alan Seagrave? The only person they contact is AMA, who won the contracts.
MR. EWALD:
Q Well, have you told AMA, "hey, guys, you're using the wrong PLM method because what I'm doing right now, I'm finding it a hundred percent of the time and you haven't found it once?" Right?
MS. O'DELL:
Object to the form.
A I haven't found it a hundred percent of the time, and I don't know why that's so obvious to have a problem with people. And I'm gonna

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call AMA? They know my testimony. They know what I do. I'm gonna call Sanchez? I'm gonna call Alan Seagrave?
MR. EWALD:
Q There are professional organizations as well. People get together and talk about these issues; correct?
A You know, it's sort of like, gee, you haven't told anybody, and why not, and why don't you go out there and start banging the drum? And I prefer to have the science to the point where I'm doing -- it has the best sensitivity and we can show it.
Cos- -- you know, cosmetic talc's not sold anymore in this country, that I can tell, unless you -- unless you go to eBay or --
But you walk in a store, you can't find it anymore, which is a good thing. Because you're right. I'm thinking that, you know, when you're using these products as a body powder and you're putting it on infants and children, it's not a good thing.
MS. O'DELL:
Hey, John, we've been going about an

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hour. Why don't we take a short, short break, about five minutes?
MR. EWALD:
Sure. Let's do it.
VIDEOGRAPHER:
Off record. The time is 3:12.
(OFF THE RECORD.)
VIDEOGRAPHER:
Back on record. Time is 3:24.
MR. EWALD:
Q Okay. Doctor, right before we got back on the record, you indicated that you did identify the two tests that I had mentioned by MAS's M number. Can you briefly just say on the record which two tests those are?
A I'm sorry?
Q I wanted you to say on the record the two M numbers that you identified off the record.
A MAS project M71740, the Kirch Johnson Baby Powder container and report issued on 2-15-2024, and then we have M71730, the Jeanie Henderson container and report issued in November 28 in 2023.
Q And if we combine those two analyses

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with the analyses contained in your fourth supplemental report, April 29th, 2024, that together represents the entirety of the MAS PLM chrysotile analyses that have been produced as it relates to J&J talc?
A As far as I know, yes.
Q Okay. It's not a trick question. It's the same thing I have.
A No, there's no others. One will show up, and then people aren't too kind.
Q Well, let's circle back. When we were talking about the early days of MAS's work on PLM and chrysotile circa roughly December 2020, who, if anyone, was funding that initial work?
MS. O'DELL:
Object to the form.
John, I think you misstated the year. You said 2020.
MR. EWALD:
I think I did, too. Let's try again. Thank you.
Q In -- in or around December of 2019, when MAS was beginning its PLM chrysotile methodology work, who, if anyone, was funding

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that work?
A I don't recall any -- we actually had anybody funding that work. And, you know, use --
And I was thinking about what we just talked about. The use of heavy liquid density separation for minerals is something that is so well established in the scientific community. It's nothing -- there's nothing unique, there's nothing --
There's hundreds and hundreds of papers out there published about using heavy density liquid to use [sic] minerals. In this particular case, we're just using -- we're going after a different mineral that people haven't gone after in the past, that I can tell, for -- for chrysotile using a -- not a novel analytical method. PLM is not novel. It's, you know, it's been around from the late '60s, early '70s. The use of -- it's just another analytical technique for separating out a sample. It's just taking us longer because we're not a research lab.
But, you know, you can go on TV and watch heavy liquid density separation on the shows where they're panning for gold. That's

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heavy liquid density separation.
Q Okay. So if that's the case, Doctor, then why did you spend a decent amount of your report and the deposition time earlier today saying how J&J hid from the world this heavy liquid separation method for chrysotile that never would have been -- seen the light of day if not for litigation if it's -- everyone knows about it and it's so well established?
MS. O'DELL:
Object to the form.
A Well, if you have a method and you start analyzing it and you're getting a number of positive samples for asbestos that you did during the earl- -- during the development of this method, it wasn't me who said this but it was a J&J person that said that this concentration method is not in the best interest of our worldwide talc market. You're gonna start putting out there that there's asbestos in your product? That's what I think.
MR. EWALD:
Q Well, I'm sorry, Doctor. You didn't answer my question, which is: If, as according

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to you, it's so well established in the scientific community, there are hundreds of papers over decades that heavy liquid separation is something that works, how could J&J have engaged in this great coverup, as you posited, preventing the scientific world from using heavy liquid separation for chrysotile?
MS. O'DELL:
Object to the form.
A I don't think it was well known out there that there was asbestos in cosmetic talc. It certainly was not something I thought of early on when I've been shown those transcripts from 10 to 20 years ago.
I can't answer why from J&J. Alls I can answer is if you look at the Blount paper where she goes into different references for what she's using, especially when she starts talking about separating out the pellet --
And that's where we got the idea of using liquid nitrogen, because she had references in there for using liquid nitrogen to do this.
When you're doing your flotation, when J&J and all the talc manufacturers out there do

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the beneficiation with flotation, they're using a surfactant to help drive the talc particles to the surface to be harvested. So they're -- they're changing the surface tension there, and they're concentrating it, trying to get rid of the fines. That's why J&J was experimenting with different surfactants, thinking they could eliminate both chrysotile and/or tremolite out of their product from the -- from the Vermont mines.
Now, you know, they didn't go tell the world about it. It didn't work for both Argonaut and Hammondsville.
So I just took a well-established method and tried it because I saw that J&J had done it and had found -- had positive samples for chrysotile. That's the only reason I got started in it.
Q So you didn't -- you didn't decide to use Colorado School of Mines' method because you thought it was a good method?
MS. O'DELL:
I'm sorry. Would you repeat that? I couldn't hear the last part.
MR. EWALD:

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Yeah.
Q You didn't decide to use the Colorado School of Mines' method because it's a good method? It was only because J&J had used it in documents that you saw?
MS. O'DELL:
Object to the form.
A I used it because they showed it was possible to separate out chrysotile from talc. And they also, of course, showed that you can separate out amphiboles from talc by using heavy liquid density separation. And, also, the same time we saw the -- when Windsor Mineral did their own heavy liquid density research by Reynolds, that they found asbestos using heavy liquid density. They used standards. So it looked to me like it was a fairly well-developed methodology --
Q You say fairly --
Sorry. Go ahead.
A -- for amphiboles. You know, Eric Chat- -- Dr. Chatfield had been using it for years on vermiculite. Then he put together, you know, the 22262-1 and -- well, 2, where then he

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says "here's how you do it, and you can use it for all these different things, including cosmetic talc, and once you do it, you can analyze it by PLM or SEM or TEM or XRD, any one of them."
Nowhere in there does it say you have to do it for all of them, you know, you have to go -- if you're gonna do it for PLM, you've got to do it for TEM or you've got to do it for XRD. He said here's the methods, the analytical methods.
Q All right. Required or not, if you are not able to identify a single person by name in the deposition that will publicly agree with you in your findings of chrysotile by PLM, isn't it good scientific practice to then say "I'm going to confirm this by TEM," for example?
MS. O'DELL:
Object to the form.
A I've already given you my -- my reasons for that. We have not tried it yet for Johnson's Baby Powder by TEM.
MR. EWALD:
Q What about another lab? Why not send

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your samples to another lab to try to confirm it, whether it's TEM or PLM chrysotile?
A I'm not sending it to -- you know, I'm not going to be sending -- I'm not gonna send it to another lab yet. I'm gonna -- until, you know, it's time to write your papers, the paper.
Q Okay. And why is that?
A Why? Because that's what I feel would be the best method in order to get it published, and given the protocol for PLM. I'm sure we will have TEM done by then. I want to put both together in one paper, TEM and PLM.
Q If it's, as you say -- if, as you say --
Sorry. Withdrawn.
If, as you said, after coming back from a break with counsel, right off the bat, that what you were doing was not novel or analytical, why is it so difficult for you to publish those results if they are so well established?
MS. O'DELL:
Object to the form.
A The use of heavy liquid density separation is really well established to separate

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out minerals, to separate out all kinds of stuff, anything that has two densities. I mean --
Hand me that.
Here's something I used to take in to junior high school to teach science classes for an hour, and when they were doing densities, I would take this in and say "I'm gonna show you what heavy liquid density separation is. Let's say that blue particles are the asbestos and the white particles are -- are the talc. Oh. One floats and one goes down to the bottom."
I mean, they sell this at a hobby store. It is so well accepted about this kind of stuff. So --
But we're trying to separate that is a little bit more difficult, two minerals that are very close in density, very close in --
And we're talking about a -- a -- a -- you know, a trace amount. That's the only difference here. But the actual science behind what we do is not novel at all. It's just another sample preparation method in the lab.
MR. EWALD:
Q Well, you were talking about, earlier

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in the deposition, that the Blount amphibole density separation method has been published; right?
A It has.
Q And that an amphibole separation method has -- described in ISO 22262-2; correct?
A Correct.
Q And there is at least a mention of amphibole separation methods and the need for interlaboratory work on those in the FDA interagency White Paper; correct?
A I'm sorry. What was that last one?
Q The FDA interagency White Paper at the end of December '22, they do talk about amphibole density separation methods and the need for interlaboratory testing of those; right?
A Yeah. They're proposing that if they go through with the heavy liquid density separation for amphiboles, which will be good.
Q Right.
A A lot of people are doing PLM analysis on these cosmetic talcs, in my opinion, that don't have a clue what the detection limits are by PLM.

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Q Yeah.
A That'd be the weight percent by TEM that, in my opinion, where you have to do a calculation on a made-up fiber size, that they have a detection limit of 10 to the minus 7, finding one structure, even though to find one structure, one fiber, you know, you have a detection limit of anywhere from 5 to 15 million.
So I was hoping, you know, that when -- the Interagency Working Group can fix some of these issues. That's why they're not recommending, by TEM, weight percents. They're -- they're -- they're more recommending -- that's the FDA -- that they go with fibers and bundles per gram. It provides more information on the actual concentration of any asbestos, in my opinion.
Q So even --
Apologies for the computer issue.
So even after telling the FDA in February 4th, 2020, that you had cracked the code on separation of chrysotile heavy liquid separation, that is not even mentioned in the FDA White Paper or any of the appendices; correct?

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MS. O'DELL:
Object to the form.
A No. It's just amphiboles.
MR. EWALD:
Q And I believe you testified earlier today that your impression was that the Interagency Working Group understood that your PLM chrysotile method was not ready for prime time? Was that your testimony?
MS. O'DELL:
Object to the form.
A I don't think I said that. But I didn't really show any data, I think, for any chrysotile being found in any. I just said this is the basic procedure.
On the other hand, I had the data for the amphiboles that presented, so I guess that's why they only stuck with amphiboles. I mean, I -- I don't have an inside knowledge of what FDA decides or not decides, or the Interagency Working Group.
MR. EWALD:
Q Yeah. You say you -- you would be speculating if you were to be talking about why

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the FDA/Interagency Working Group decided not to even mention your PLM chrysotile heavy liquid separation method had supposedly cracked the code; right?
MS. O'DELL:
Object to the form.
A I just don't know what FDA would be thinking. I don't know how much, based on my testimony in front of Congress where I was asked about chrysotile and said that's not possible yet, it's not possible, we don't have a method for that yet. So -- so I don't know what FDA's position was on that.
Q Did you ever follow up with the Interagency Working Group to say that you were wrong in saying that you cracked the code?
MS. O'DELL:
Object to the form.
A Did I ever follow up with them? No.
MR. EWALD:
Q Do you believe that you were wrong or maybe overstated things a bit when you told them in February 4 of 2020 that you had cracked the code?

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MS. O'DELL:
Object to the form.
A I wasn't wrong at all. I was absolutely right. Now, we had to get it worked out, but I used a noncontroversial, very well-established method, but it just had to be tweaked here. It's not the method's fault. It's -- it was a little bit more difficult than I thought.
But as I sit here now, I am -- I was right. I was right, what I stated to that -- that group at the time.
MR. EWALD:
Q We'll go ahead and mark --
THE COURT REPORTER:
It's 12, John.
MR. EWALD:
Okay. Thank you. I just got there. 12.
Q -- Exhibit 12 the slides that accompanied Dr. Longo's February 4th, 2020, presentation to the Interagency Working Group.
Doctor, does this look familiar?
A It does.

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(DEPOSITION EXHIBIT NUMBER 12 WAS MARKED FOR IDENTIFICATION.)
MR. EWALD:
Q Okay. And the title on the first page is "The Heavy Liquid Separation Method for the Analysis of Cosmetic Talc to Detect Amphibole and Chrysotile Asbestos." Right?
A You read that correctly.
Q Great.
Talking about sensitivity --
MS. O'DELL:
Do you need to see it, Dr. Longo, or are you good with it just on the screen?
THE WITNESS:
I'm good with it on the screen.
MR. EWALD:
Q Talks about how to increase TEM sensitivity. Then you also have this brief early history of HLS method for talc developed for J&J, and you then say "the MAS LLC HLS analysis for amphibole asbestos by PLM," and you lay out the procedure that you had at the time. Correct?
A Correct.
Q Okay. And the next slide, you talk

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about the MAS LLC HLS analysis for amphibole asbestos by TEM, and you lay out your procedure for that. Correct?
A Correct.
Q Okay. And then we have MAS LLC HLS analysis for chrysotile asbestos by PLM, and you lay out the procedure that MAS was using for this at the time. Correct?
A Correct.
Q What aspect --
Well, I'll just go line by line.
Stain 200 milligrams of cosmetic talc with betadine, 2 percent iodine solution, filter stain talc material and wash in alcohol/Di-water.
Do you still use that as part of MAS's HLS analysis for chrysotile asbestos by PLM?
A No. As I discussed earlier in this deposition, that the iodine worked really well for the 1866b NIST chrysotile standards because of the very large bundles that were in there.
Q Okay.
A But when we got to looking for it for the size of the bundles of chrysotile that was in the cosmetic talc, the 2 percent iodine solution

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did not absorb enough to it so it gave it any ability to see it. So it just didn't work. And I won't mention that -- other scientists who came to the same conclusion.
And we were using betadine, but the method called for pure iodine. The problem with pure iodine, one, in order to get it, you have to fill out a lot of paperwork for the DEA because it's a precursor in meth productions.
And, two, once you made up the solution, it only had about a two- -- a three- or four-day shelf life. And we weren't working on it all day long. And, again, we never used the iodine for identification. It was just supposed to help, and it didn't work. So we dropped that pretty quick after this.
Q And the 2.72g/cc HLS, is that the same that you use today for the heavy liquid?
A Today -- I'll just give you an update on the very last one we did for Johnson & Johnson. And this one --
And this was the Kirch on 2-15-2024. We used 2 .65.
Q Okay. And do you recall in the 1974

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Colorado School of Mines, did they use 2.72?
A No. They never used 2.72.
Q Okay.
A They said less than 2.65.
Q Okay.
A But our initial trying everything, that was being -- that gave the most. And it was said -- you know, we had -- we had some technical difficulties trying to repeat their stuff.
But, no, they didn't use 2.72 initially. Well, it's not what they put in their final protocol.
Q Centrifuge at 500 rpm for 5 minutes, then 1800 rpm for 5 minutes, is that still MAS LLC HLS analysis for chrysotile asbestos by PLM?
A For this sample, we did it for 72 hours at 21 degrees Celsius without breaking.
Q And at the time Colorado School of Mines was doing analysis in 1974, did they use the same centrifuge time?
A I'm not sure they published in there what centrifuge time they were using.
This particular centrifuge time was used by Reynolds in the -- the Windsor project,

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where they hired him to look for amphiboles in their product -- I mean in the -- in the -- in their Vermont talc. And he found actinolite, and he says he believes the other was anthophyllite. He ran standards, and he showed that it was in there. So I borrowed their centrifuge time.
Q Okay. The part about fine tweezer, remove stained chrysotile bundles from filter and place on glass slide, MAS doesn't do that anymore -- right? -- because they don't stain the particles. Right?
A That went pretty quickly. That didn't -- that didn't last long.
Q Okay. And when you say "have validated detection limit of approximately 0.0001 percent by weight fibers per gram of talc," you're talking about, quote, validation procedures that were done internally by MAS; right?
A Correct.
Q Okay. And yet we've gone through the various discrepancies, some of the discrepancies between the MAS method and the Colorado School of Mines method, but you, earlier today and in the past have called this, what you were doing, just

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the Colorado School of Mines method; right?
A I'm doing what?
Q All you're doing is not your method. It's the Colorado School of Mines method. That's what you say; right?
MS. O'DELL:
Object to the form.
A I think it is Colorado School of Mines' method. They're the ones who said it could be done. I'm just tweaking it. It's not -- it's never gonna be the Longo method.
MR. EWALD:
Q Okay. What part -- what specific part of the Colorado School of Mines method for analyzing chrysotile with PLM still remains in your analysis today?
A That we're actually using heavy liquid density separation, a well-established methodology, to -- to concentrate the chrysotile, just like they did, and show that it can be done. We'll probably end up with a -- a heavy liquid density that's less than 2.65. I believe that's where we'll end up. So we'll be using exactly what they said. And we're doing it by PLM, just

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like they did.
Q All right. So when we were talking, again, in the early stages of MAS's analysis of chrysotile by PLM, you were talking about the use of the NIST 1866b, and that worked great. And I just didn't follow what you were meaning by that.
A I'm sorry. I'm not understanding the question. Could you repeat it?
Q Yeah. I didn't understand the answer. I'm not saying it's your fault. I just didn't understand, so I'm trying to wrap my head about that.
We were talking about the early stages of analyzing talc for the presence of chrysotile using PLM, and you talked about the experience early on with the NIST 1866b standard. And what I heard some version of -- I'm not saying it was your exact testimony but just trying to ring a bell here -- that it worked great and there was a lot of brownish-blue, but that there -- that was a problem. And I wasn't sure what you were conveying.
A For the iodine?
Q For the iodine, yes.

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A Because what we were finding in the talc, as it turns out, was maybe a thousandths of the size of the type of bundles you see in the 1866b. So it would not absorb enough of the pigment, I guess, for lack of a better word, that you could pick it out in the sample and then take tweezers and take that pinch and put it over in the -- on the slide so you could find it easier. It didn't work.
Q In that time period, we'll say early -- late 19- -- late 2019, early 2020, was Paul Hess comparing what he was seeing in the talc to the NIST 1866b standard?
A He initially was using the 1866b standard at percentages. And when I finally caught up with him that he was doing that, I stopped him and said that's -- we have to go back; these are not at the concentrations because you're using too big of a standard. That's when the RG-144 came in, where we could then calibrate the analyst to look better for what the percentages were.
Q And I'm sure this is my problem, but I'm trying to follow you. So the -- the

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percentages, when you're saying the percentage of what you're seeing that didn't match the NIST 1866b, are you talking about the size of the particle?
A The size of the bundles. Yeah. There was -- there was no .1 to 1 percent or 2 percent in there. That's -- that was impossible. When I saw -- finally saw that data, it was like this is wrong. You can't have this much in there. This is at trace levels. This is not even close to what Colorado School of Mines is finding.
And, then, I didn't do a deep dive. I just looked at it and said, "Why are you doing this?"
"Well, that's the concentrations. That's what it looks like."
No, it doesn't. That's when we started really focusing on the -- the -- the Union Carbide chrysotile, especially when we started seeing that it was giving us very similar refractive indices and very similar sizes in 1.550.
And then when we found our RG -- our SG-210, that was a much better use as a standard

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than the RG-144 because it was showing the exact -- same ranges of refractive indices, same ranges of length, same ranges of width. So we have -- we had -- we had -- we had it down to the point where it was pretty straightforward.

Q So before, though, you started using SG-210, was Paul Hess identifying particles as chrysotile because they matched what he was seeing with NIST 1866b?

MS. O'DELL:

Object to the form.

A No. 1866b has a -- has a different refractive indice [sic] than 1.550 for those big bundles. I mean, you know, the gamma is in the 1.550 range to 1.5 -- 1. -- 1.559. I think the highest I've seen is 1.560, the magenta. You've all heard that a few times. It's got to be magenta.

But if you look at the bundles of chrysotile that they show in the standards, like the ISO method, the size of those bundles are an entire field of view, maybe four or five hundred microns in length, and their thickness is maybe 50 to 100 hundred microns thick. And you get the

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magenta when you do that, but you also get areas that have the yellowish gold, single little fibrils. But if you look at the size difference between the two, what we're looking at is about a thousand --

You know, and I'm just pulling this out of the air.

-- hundreds to maybe a thousandths times smaller than what we're dealing with.

Now, I know there's a suggestion that the size of -- the thickness of the bundle makes absolutely no difference, but that doesn't square with the Michelle Levy charts where you determine the birefringence in it on the -- on the, you know, the parallel axis, y axis, as from zero to a hundred micrometers in -- in length.

And where you pick off that size, if you go to 10 micrometers off your colors and you say, okay, well, that's --

And they tell you to use the -- the width as the diameter. And you'll have different refractive indices if you've got a 10-micron or a 1-micron width versus one that has 50 to 100 microns width. Once it gets to a certain level,

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certain size, it's all the same. So they only go up to a hundred micrometers.

So what's the primary difference that we have between what we're seeing in the 1866b standard is how big the structure is.

Q So if Paul Hess was not using the 1866b NIST standard to identify what he was seeing in late 2019, 2020 as chrysotile, you had not begun to look, compare yet to SG-210, how was Mr. Hess positively identifying chrysotile during that early period?

MS. O'DELL:

Object to the form.

A Mr. Hess was only using the 1866b as this is how much space it takes up to do the -- the visual estimate for the amount of percent. He was already finding the very small structures. And that's when I stopped him and said you can't use that as your visual estimate, because that has completely different -- not completely different, but the refractive indices on the gamma side are lower, and other min- -- you know, chrysotile minerals we're seeing has a higher gamma, as pointed out by Dr. Su.

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Q How was --

Withdrawn.

What, if anything, was Dr. -- I'm sorry -- Mr. Hess relying on to confirm that what he was looking at in identifying as chrysotile had a correct gamma refractive index?

MS. O'DELL:

Object to the form.

A What was he using?

MR. EWALD:

Q Yeah.

A He was using his experience and knowledge of what the refractive indices, and it didn't match anything else, especially the birefringence. I mean, he's been doing PLM for -- since -- 30, 40 years. And -- and he was -- and he's right. I mean, I was agreeing with him. I made sure that before we -- I put this out there, that we were finding this, that we were following -- and it couldn't be anything else.

Q So it's your --

A But I have to say, I mean, we're talking five years ago. I don't remember the

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whole sequence of events, you know. It's like -- it's been a lot of work on it over the years. But to go from, well, this happened, this happened, this happened, this happened, this happened, you know, the best way to look at this is we go back to when we started -- you know, we started analyzing it and putting into the notebooks, and you can see there what has changed over time.

Q Well, if I look at the PLM worksheet for one of the early analyses, is it going to tell me what Mr. Hess used as the basis to determine that the gamma refractive index corresponded with chrysotile?

MS. O'DELL:

Object to the form.

A No, it's not gonna tell you that. Any questions like that, I can tell you.

You know, we used -- we looked at Dr. Su's table for the 1.550, the table 4A and 4B, and we were in the, you know, the 430 to 450 range. And there was nothing else it could be except chrysotile. It wasn't fibrous talc. It wasn't antigorite. It was not lizardite, not

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sepiolite. It was the only thing it could be.

And he's a geologist, so, to him, that makes sense that you would have that.

And, then, of course, we started looking at --

Where is that one, the 2022 one?

MS. O'DELL:

It's right here.

MR. EWALD:

Q Sorry, Doctor. What are you looking at?

A I'm looking at the 2022 one. Those analyses for table 2 were done very early on. That's how he knew. And this was chrysotile. This was all done before we ever put the first -- on what it should be. And there's no dispute that RG-144 is chrysotile.

Q I thought you just told me that in the early days of late 2019, early 2020, when Mr. Hess was analyzing some of the talc samples by PLM for the presence of chrysotile, that you guys hadn't even thought about comparing what he'd seen to SG-210 or RG-144.

MS. O'DELL:

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Object to the form.

A I didn't testify at all about chrysotile until we had the RG-144 from these standards. We knew exactly what we were looking for. And we knew that this is what the chrysotile was gonna look like, because it was matching what we were seeing in the samples.

MR. EWALD:

Q How --

You just told me a couple of questions ago that you came up to Mr. Hess after he gave you the initial results and you were saying, no, no, you shouldn't be using the NIST standard, 1866b. You should be using this Calidria one. Right?

MS. O'DELL:

Object to the form.

A Well, we're talking about two different things.

MR. EWALD:

Q Okay.

A I think now I'm more headed to how did you -- how did you verify that it was chrysotile? Verified it was chrysotile because it was in the

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ranges that are in the charts.

And, also, if you look at -- if you look at Walter McCrone's -- I think it's 1974, he goes through the wavelengths of all the different chrysotile mines around the world. I think he has 32, 33 of them. There's differences between those. And the ones that are the most different is from the Coalinga mine, and even ones that are even more different -- and I used to have some around here, but I don't anymore -- is from the Johnson mine in Vermont.

The standard he -- we made up, he was using that for the percentage of chrysotile in the sample, not identifying the chrysotile using the NIST 1860 -- NIST standard. You can't use that to identify what we have here. It has -- he doesn't have the right -- unless you do one thing to it. Grind it up in liquid nitrogen and get the same size as the size we're seeing, and you will get very similar refractive indices.

Q So that goes back to what we talked about earlier -- right? -- the -- your theory that grinding up in the milling process the talc and, presumably, as you are contending,

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chrysotile, changes the refractive indices. Fair?
MS. O'DELL:
Object to the form.
A I'm not sure what you said. What we took was is the 1866b standard and purchased a liquid nitrogen stainless steel state-of-the-art mill. You have to keep it frozen in liquid nitrogen because it has too much flexibility, unlike tremolite and anthophyllite. So you have to keep it, make it brittle, which the liquid nitrogen does.
And, then, once I got it down to a size I thought was appropriate, I ran it through a sieve and took the minus 200 in the sieve and then had them analyze it, and the refractive indices are just about -- you know, they're different. They're not -- they're not your usual, you know, magenta. You know, we've got some sizes that we get very similar stuff that we'd seen before. A lot of it was around the 1.562.
MR. EWALD:
Q Apart from your liquid nitrogen

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experiment, do you have any support for the proposition that grinding chrysotile changes its refractive index?
MS. O'DELL:
Object to the form.
A Getting it down to a size that is way different than what's in there, it does change the refractive index, because it changes the birefringence, because we have a chart that shows that. And you can't change the birefringence unless you're changing the refractive indices.
MR. EWALD:
Q So when you talked about grinding it to a size smaller than what we see --
I just wasn't sure what you were referring to. What size are you grinding it to?
A A minus 200 sieve size, cosmetic talc size.
Q And I don't think you answered my question as to, leaving aside the liquid nitrogen experiment that you just discussed, do you have any support for the proposition that milling and grinding a chrysotile particle will change its refractive index?

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MS. O'DELL:
Object to the form.
A If you go to our supplement expert report, October 9th, 2023, and you go to section 7 --
MR. EWALD:
Q I'm sorry, Doctor. What are you looking at?
A Supplement expert report, October 19th, 2023, comparison by our chrysotile structure size, Union Carbide's SG-210 product with Coalinga mine, California, Montana, blah, blah, blah, and reduced-size NIST 1866b chrysotile standard, which is the very last section. And I'm gonna tell you what page it's on.
Here we go. Got to get down to it, 1.550.
You want to go to page --
Let me get to the post 1.550.
Okay. You go to page 175. Best example is on page 195, because this was our first attempt at this, where our perpendicular -- excuse me -- parallel is 1.563, and there's no magenta, the pinkish-purple -- pinkish-red, and

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we have a lot of 1.563s in the SG-210 as well as -- as well as in the products themselves.
Now, the parallel -- excuse me. The perpendicular were never really that far out of line. That doesn't change that much.
Q Do you have a working theory on why the milling and grinding of chrysotile will alter the gamma refractive index but not the alpha?
A I don't have a working theory on it, but it is consistent with what Dr. Su said in his paper, that he said you will have significantly higher gammas than the 1866b. He didn't say anything at all about having significantly higher perpendiculars. I just don't -- you know, that seems to be not affected by the -- by the diameter of the bundle.
Q Has anyone other than Paul Hess conducted PLM chrysotile analysis on J&J talc --
MS. O'DELL:
Object to the form.
MR. EWALD:
Q -- for MAS?
A We have. We have three -- we had three people that was doing that at the time, but

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mostly just the QC end of it. That would be Chris DuBour. And that was about it.
Q Okay. So what I heard from you is that Chris DuBour and one other person helped on the QC, but that Paul Hess was the analyst making the decisions?
MS. O'DELL:
Object to the form.
A He was -- if you look on the reports, his name's the only name on there.
MR. EWALD:
Q Right. So you would agree with me that Chris DuBour and the unnamed third person --
A I think Chris DuBour, he may have a project somewhere that's got his name on it. I just -- you know, I'd have to go look.
Q Okay. I've heard some differing things about Mr. Hess's current status at MAS. What is his current employment status?
A He's now working part-time again for us instead of just a consultant.
Q When did he go back to working part-time?
A I don't remember the exact time. But

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he's --
Q Was it last year?
A Huh?
Q Was it last year or this year?
A I think it was this year.
Q What period of time was he working as a consultant?
A I don't recall.
Q Do you currently intend to analyze any additional samples of J&J talc by PLM for the presence of chrysotile?
MS. O'DELL:
Object to the form.
A I mean, it's hard for me to say I'm not going to analyze anything more. We're always doing research. If we do any more, I'll certainly let my client know so they can let you know.
MR. EWALD:
Q Understood.
And if -- if MAS, whether it's with J&J or another cosmetic talc manufacturer, if MAS is going to do any PLM analyses for the presence of chrysotile, is -- who is qualified to do that at

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MAS at this point in time?
A Me, Paul Hess, and we have some trainees coming along.
Q Why? There are trainees coming along? They're not ready at this point in time?
A Well, they have to get really where I'm comfortable that what they're doing is correct. We invest a lot of time in training them.
Q And you're not, at this point, comfortable that they know how to do the right thing?
MS. O'DELL:
Object to the form.
A They're early in their training program. It's not comfortable or uncomfortable. You know, if I had a Ferrari and I wanted them to race a track, no. Would I put them in it now? No. But I don't have a Ferrari. I'm not even sure why I used that analogy.
MS. O'DELL:
Me either.
A Must be getting tired. What time is it? 4:19.
MS. O'DELL:

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4:20.
A Cut off at 5:00.
MR. EWALD:
Q Okay. I --
Well, I think --
I'm just cognizant of others and the court reporter. I can't remember when we went back on the record. We've been going for more than an hour. Do you want to take a quick break before and then finish up at 5, or do you want to plow through? I'm happy to do either.
A Let's stop now? I'm not sure what you said.
MS. O'DELL:
You want a 5-minute break and then finish at 5:00, or --
MR. EWALD:
Yeah. I'm happy to push through. I think we've been going for over an hour. I just want to make sure that anybody else doesn't want to take, like, a quick two-, three-minute break. That's all I'm saying.
A Yeah. That's a good idea.
VIDEOGRAPHER:

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Off record. The time is 4:20.
(OFF THE RECORD.)
VIDEOGRAPHER:
Back on record. Time is 4:27.
MR. EWALD:
Q Doctor, I saw in a recent deposition of yours that you were discussing results of testing by Mark Bailey involving TEM and CSM method. Do you know what I'm talking about?
A I do.
Q So tell me what you know about that testing by Mark Bailey.
A Alls he's doing is TEM, and he's doing CSM on every sample for both amphiboles and chrysotile. And the data I heard about, that he's -- he's finding about 75 percent positive for chrysotile using CSM.
Q Where did you hear about it?
A From him.
Q Okay.
A Satterley and them. It's not J&J. And I will not name who it is. But I think he's taking our work and --
Well, not sure. So --

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Q You at least --
A He's not focused on PLM. He's focused on TEM.
Q Can you confirm that, based on what you just said, that whatever testing he's done of samples are not J&J samples?
A I've not heard he's done J&J samples.
Q Have you seen any images or data from his testing of the -- using TEM and CSM method?
A I was shown it, but I was not given the data.
Q Are you planning to rely on those findings to support the conclusions that you are offering in this MDL?
A Well, I would caution you, don't say that nobody else in the world is doing -- finding chrysotile in cosmetic talc samples using a CSM method.
Q I didn't say that, did I? I haven't said that.
A You used to say that.
Q I don't know if I did.
Okay. Is -- I guess you have an understanding as to whether or not these test

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results have been made public?
A I think they have been made public in non-J&J cosmetic talc project -- I mean litigation.
Q Okay.
A So -- but I thought you guys all talk to each other.
Q I know. Like I said, I've gotten out of the game; right? So I guess no one told me.
So I want to talk a little bit about lab accreditations. And am I correct that MAS at current is not accredited by NVLAP?
A We dropped out of the NVLAP program, and we went in -- we joined the A2LA program that is -- follows ISO methods for accreditation because we have so many that we do through A2LA that's not provided by others. And I know people have a problem with this, but we were recommended by our last auditor that we drop the program because we were wasting our money.
Now, we still do the same PLM PAT rounds. We also do TEM PAT rounds as --
But A2LA -- excuse me -- NVLAP, when the auditor comes in, they're only interested in

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looking at reports that have to do with schools, PLM samples of schools, air sample analysis of schools. And our 1990 ad didn't work very well because we don't get any more samples from schools, or attorneys, from that.
So he said that we were wasting our money and we ought to do this. So we dropped it. But we're still doing the exact same thing we were doing before on the PAT rounds.
Q What I saw on your website is as it relates to asbestos in cosmetic talc products by TEM certified for ISO 22262-1 and 22262-2. Is that correct?
A That is correct. We have that certification from A2LA or ISO. And we get audited every year. As far as I know, we're the only laboratory in the country that actually has been certified to analyze, by both PLM and TEM, for amphibole asbestos in talc.
Q All right. And you are not certified by A2LA or ISO for analyzing talc products for the presence of chrysotile; correct?
A We have not applied for that yet.
Q Do you have plans to apply for it?

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A Well, of course, some day.
Q When you talked about being --
Well, let me first ask. For --
And I'm understanding for NVLAP. But for A2LA, what goes into the initial certification process that we see here, for example, the two ISO 22262 methods?
A Those are confidential business records, so we won't discuss that.
Q Okay. Let's be clear on what, if anything, you're willing to discuss.
Are you testifying that you are not going to tell me what steps MAS had to take to satisfy A2LA that they should be certified under the different methods?
MS. O'DELL:
Object to the form.
A No, I'm not gonna discuss it. I mean, we have quite a few A2LA certifications. So that's not really offered by other people, such as, you know --
And as soon as I start talking about what we supply to them, you'll start putting it in your subpoenas.

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MR. EWALD:
Q Well --
A It's business records, and it's confidential, you know. It's same thing about SOPs. They see an SO- --
We may -- you know, hypothetically, they'll be looking at an SOP. Then they come in and audit and they look and see what we're doing and they look at analysis. They do what NVLAP do.
Q And the PAT --
Sorry. Go ahead.
MS. O'DELL:
Sorry. I don't think he's finished.
A Yeah. Except here, they're not just interested in schools. They're interested in what -- what we're actually accredited for, so --
And it's really -- it's really good because not every analysis that you do, there is a standard accreditation for it.
Q I'm sorry. I didn't follow that last point. You're saying that it's --
A Well, for example, we do a lot of -- we do a lot of chamber work where we're measuring

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outgassing of volatile organic compounds, VOCs. There's three or four labs that do it in the country. There's only one of us that are certified to do it. Because we put up standards, put it into the chambers to mimic what comes out of things like rugs and, you know, tables that have, you know, a surface on it that is emitting VOCs or car parts, that nice new car smell that we all love. You know, that's volatile organic compounds.
So we would introduce that into the chambers, measure them to show that, you know, we can replicate it.
There is no -- you know, you can't go to AIJ for that. You can't go to any -- any -- any type of group that says, okay, here's for VOC testing. This is what you have to do.
So we come up with the protocol in what we're doing and then prove that we can replicate that work, and then they give you the certification, and they come in once a year and look over everything.
Q Are you willing to testify about what goes into the yearly audit of -- by A2LA?

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A They have checked your analysis. They check controls, et cetera, et cetera. They want to look at the equipment. They want to look at the analysis. They want to look at reports.
Q So when they -- somebody comes from --
Was it one person that comes from A2LA or more than one person?
A Just one.
Q And what sort of training does the person from A2LA have, to your understanding?
A Oh, they've either been doing this for a while or, you know, it's --
They typically don't give their résumés out; just give their titles and what they've been, you know, kind of doing. I've never run across one that didn't know what they were doing.
Q So this A2LA representative shows up. Say that they check your analyses. What does that mean, "check your analyses"?
A They want to see that you're doing what you said you were gonna be doing.
Q And how do they do that?
A Well, they look at the analysis. They look at your SOPs. They look at the equipment.

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They look at reports that you've generated where you've either not found something or found something. They want to look at the process blanks that we say that we do on every batch of TEM samples. They want to see, you know, how we're determining and not contaminating samples. You know, every quarter we do air samples in all the areas where we handle asbestos; whether it's working properly, whether they have the appropriate airflow into them. You know, it's just whatever --

It's really not a set schedule of what they're looking at. Do we calibrate the balances? Did we do this? Did we do that? Fortunately, I don't have to deal with them too much.

Q So you said they look at reports. That includes litigation reports?

A Excuse me?

Q So they look at reports. Does that include litigation reports?

A Um, well, we show them the analysis of a litigation report, not the -- they don't read the reports. I would never do that. But we've

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got to show them examples of the analysis we're doing.

But most everything else is not -- you know, everything else besides what we're doing for the Blount -- the Blount and the TEM, it's nonlitigation that we have these other certifications for.

Q Have you or anyone at MAS, to your knowledge, asked A2LA about what it would take to get certified for the PLM chrysotile method?

A No. Not that I'm aware.

Q In --

Since MAS has obtained these A2LA talc-related certifications, you have testified on direct at various trials highlighting the accreditations; correct?

A Absolutely. We're proud of it. And I think we're the only ones in the country still that has that certification on both plaintiff's and defense side.

Q But yet you are preventing me and my client from finding out anything that went into obtaining those certifications.

MS. O'DELL:

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Object to the form.

A I'm preventing you or your client to get double the confidential business records that people would love to have because it would save them a lot of time and effort to get these certifications.

You know, it's the same thing with NVLAP. I wouldn't give those up either until you guys did a -- J&J did a FOIA on it. And I wasn't going to provide any information about our audit with FDA. So, you know, I look at that as all confidential business records.

MR. EWALD:

Q From --

For all of the -- for all of the PLM chrysotile tests that are included in the fourth supplemental MDL report dated April 29th, 2024, how much money has MAS been paid by plaintiffs' lawyers?

A From when to when?

Q For all of the testing of the M- --

Withdrawn.

From when to when is all of the tests included in the fourth supplemental MDL report

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dated April 29th, 2024, that are the PLM chrysotile tests?

A I would consider that confidential.

Q On what basis?

A The basis is is that our -- we look at it as confidential unless we can come to an agreement, like the last time, that these invoices were produced from both sides, you know, your experts, our experts, and we can redact what we did.

And I recall that the amount MAS invoices for -- I think this is 2016, 2017, 2018 or so -- it's like 2.9 million, and RJ Lee was like 5-point-something million, 5.6 million.

But, you know, I thought that was pretty fair, that, okay, get the experts in. We have to produce, you know, who we'd done the work for, and we were able to redact. So this was, you know, quid pro quo. It seems like only --

So I always consider that confidential.

Q Unless there's a quid pro quo.

A No. I still think it ought to be confidential. But certainly, you know, when the judges get together and they come up with

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something that they deem is fair for both sides.
Q So it's, in your nonlegal opinion, it should be confidential about the amount of money you have been paid by plaintiffs' lawyers to conduct the studies that you are relying on in your fourth supplemental MDL report for your expert opinions in this case?
MS. O'DELL:
Object to the form.
A I'm not an attorney.
MS. O'DELL:
Yeah. Please don't give a legal opinion.
MR. EWALD:
Q I was very clear. I asked not from a legal perspective.
MS. O'DELL:
Well --
MR. EWALD:
Hold on. Hold on. You're the one --
Leigh, hold on. Hold on.
MS. O'DELL:
I'm not --
MR. EWALD:

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There's not a question pending.
Leigh -- Leigh --
MS. O'DELL:
You do not have a question pending. I'm objecting and saying he's provided that there's been information provided about what he's paid -- been paid in relation to his MDL work. I just want to make that clear. And we provided those invoices, and he testified to it earlier.
So to the degree you're asking something else, you need to make it clear. And I just want to make sure the record is -- is clear as well that we've provided what we feel is appropriate under the MDL order.
MR. EWALD:
And I'm happy -- I don't always ask the best questions, but I feel like my question was pretty clear, which is how much money has Dr. --
Sorry. Withdrawn.
How much money has AMA --
See, now you've got me all flustered, Leigh.
How much money has MAS been paid by plaintiffs' lawyers for the PLM chrysotile

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studies that are contained in Dr. Longo's fourth supplemental MDL report dated April 29th, 2024, and specifically outlined on tables 1, 2, 3, 4, 5, 6, and 7 at the back of the report?
MS. O'DELL:
Same objection.
MR. EWALD:
Q But you understand what I'm asking for?
A I understand. And I would just be speculating. I have no idea on what the amounts would be for all -- for the different plaintiffs that we've done work for. I'm just -- you know, on the chrysotile.
Q Okay. I'm about to start something new. We can stop ten minutes early if you want.
MS. O'DELL:
Okay. Let's do it. Let's, you know, let's go off the record and stop for the day, and then we'll pick it up.
VIDEOGRAPHER:
Okay. Should we go off record?
MR. EWALD:
Yes.
MS. O'DELL:

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Thank you, John.
VIDEOGRAPHER:
Going off record. Time is 4:48.
(Deposition adjourned at 4:48 p.m.)

CERTIFICATE

I do hereby certify that the above and foregoing transcript of proceedings in the matter aforementioned was taken down by me in machine shorthand, and the questions and answers thereto were reduced to writing under my personal supervision, and that the foregoing represents a true and correct transcript of the proceedings given by said witness upon said hearing.

I further certify that I am neither of counsel nor of kin to the parties to the action, nor am I in anywise interested in the result of said cause.

/s:// Lois Anne Robinson

LOIS ANNE ROBINSON, RPR, RMR
REGISTERED DIPLOMATE REPORTER
CERTIFIED REALTIME REPORTER

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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